

Work Order ID 162061

162061

Page 1

Wednesday, May 24, 2017 11:37:50 AM

Item ID: D139-1012-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: AW139 Cargo Net Assembly

Start Date: 5/26/2017 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 6/15/2017 Req'd Qty: 1.00 *1*

Customer:

Reference:

DAG

Approvals:

Process Plan:

13

Date:

MAY 24 2017

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr	Revision Nbr
D139-1012-041	E
D5366	H
D5485	B
D5486	B

100

0.00

100

Purchasing

Purchasing

Memo

Issue P/O:

36428

Manufacture D139-1012-041 as per Dwg

Parts include:

1 x D5366-041

2 x D5485-041

2 x D5485-043

6 x D5486-041

3 x D5486-043

Possible supplier: TULMAR

0.00

MAY 24 2017

DAG

13

9-69

SHIP TO TULMAR:

QTY4D5295-1

QTY8D5298-1

QTY6D5294-1

QTY12D5297-041

QTY12D5321-5

QTY10D5487-3

QTY8D5487-1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 162061***162061***

Page 2

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Start Date: 5/26/2017 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 6/15/2017 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Material release note is required.

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110

Packaging Memo 0.00

Packaging

1x SP17628

120 QC6- All purchased or subcontracted products 0.00

120

QC Memo 0.00

Quality Control

DAS
38
9-89
JUL 18 2017130 Identify as per dwg & Stock Location: ST 0.00***130***

Packaging Memo 0.00

Packaging

DAS
6
9-89
JUL 27 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : ☐						
Misidentified ☐	☐	Past Due ☐							

Work Order ID 162061***162061***

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Wednesday, May 24, 2017 11:37:50 AM

Item ID: D139-1012-041

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Revision ID:

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Item Name: AW139 Cargo Net Assembly

Start Date: 5/26/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 6/15/2017 Req'd Qty: 1.00

1

Customer:

Reference:

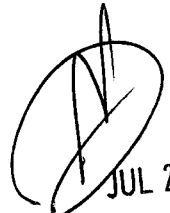
Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									


JUL 27 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : ☐						
Misidentified ☐	☐	Past Due ☐							

Picklist Print

Wednesday, May 24, 2017 11:37:49 AM

Page 1

Work Order ID: 162061

162061

Parent Item: D139-1012-041

D139-1012-041

Parent Item Name: AW139 Cargo Net Assembly

Start Date: 5/26/2017

Required Date: 6/15/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 16.03.29 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D139-1012-041P

Purchased

No

110

Each

1.0000

1

1

D139-1012-041P

AW139 Cargo Net Assembly

**

1X SP17-6-28

Location

Loc Qty

Loc Code

ST

1

158065

1

Manufacture D139-1012-041 as per Dwg

Parts include:

1 x D5366-041

2 x D5485-041

2 x D5485-043

6 x D5486-041

3 x D5486-043

D5294-1

Manufactured

No

110

Each

45.0000

6

6

DAS
13
9-89

JUN 12 2017

D5294-1

1" Snap Hook

**

Location

Loc Qty

Loc Code

ST226AA

45

158356

45

B 162106

D5295-1

Manufactured

No

110

Each

20.0000

4

4

DAS
13
9-89

JUN 12 2017

D5295-1

Ring

**

Location

Loc Qty

Loc Code

ST162

20

158357

20

B 158357

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : ☐						
Misidentified ☐	☐	Past Due ☐							

Picklist Print

Wednesday, May 24, 2017 11:37:49 AM

Page 2

Work Order ID: 162061

162061

Parent Item: D139-1012-041

D139-1012-041

Parent Item Name: AW139 Cargo Net Assembly

Start Date: 5/26/2017

Required Date: 6/15/2017

Start Qty: 1.00

Required Qty: 1.00

D5297-041 Manufactured No

110 Each 24.0000 12 12

D5297-041

Cinch Buckle Assembly

**

DAS

13

JUN 12 2017

9-89

B162108

Location

Loc Qty

Loc Code

ST162

24

148221

24

D5298-1 Manufactured No

110 Each 22.0000 8 8

D5298-1

2" Twisted Snap Hook

**

DAS

13

JUN 12 2017

9-89

B162109

Location

Loc Qty

Loc Code

ST226a

22

145153

6

148492

16

D5321-5 Manufactured No

110 Each 57.0000 12 12

D5321-5

Ring

**

DAS

13

JUN 12 2017

9-89

Location

Loc Qty

Loc Code

ST164

57

158111

57

D5487-1 Manufactured No

110 Each 32.0000 8 8

D5487-1

Buckle

**

DAS

13

JUN 12 2017

9-89

Location

Loc Qty

Loc Code

ST226b

32

158355

32

B162113

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

Wednesday, May 24, 2017 11:37:49 AM

Page 3

Work Order ID: 162061

162061

Parent Item: D139-1012-041

D139-1012-041

Parent Item Name: AW139 Cargo Net Assembly

Start Date: 5/26/2017

Required Date: 6/15/2017

Start Qty: 1.00

Required Qty: 1.00

D5487-3

Manufactured

No

110

Each

22.0000

10

10

DAS

D5487-3

13

9-89

JUN 12 2017

Connector

Location

Loc Qty

Loc Code

ST226b

22

158354

22

B162114

DQA: _____ Date: _____



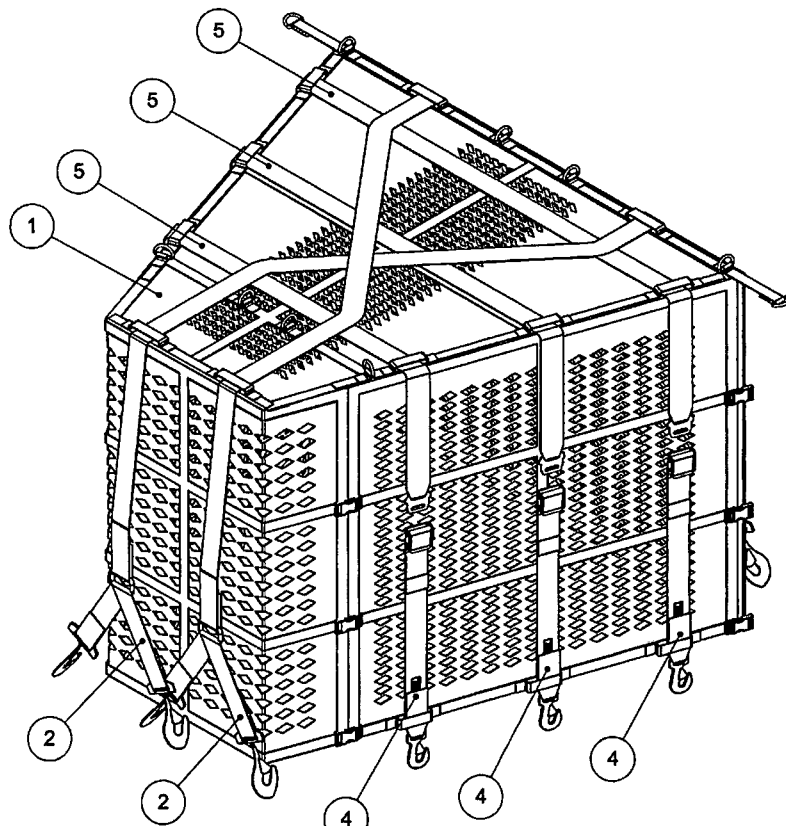
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

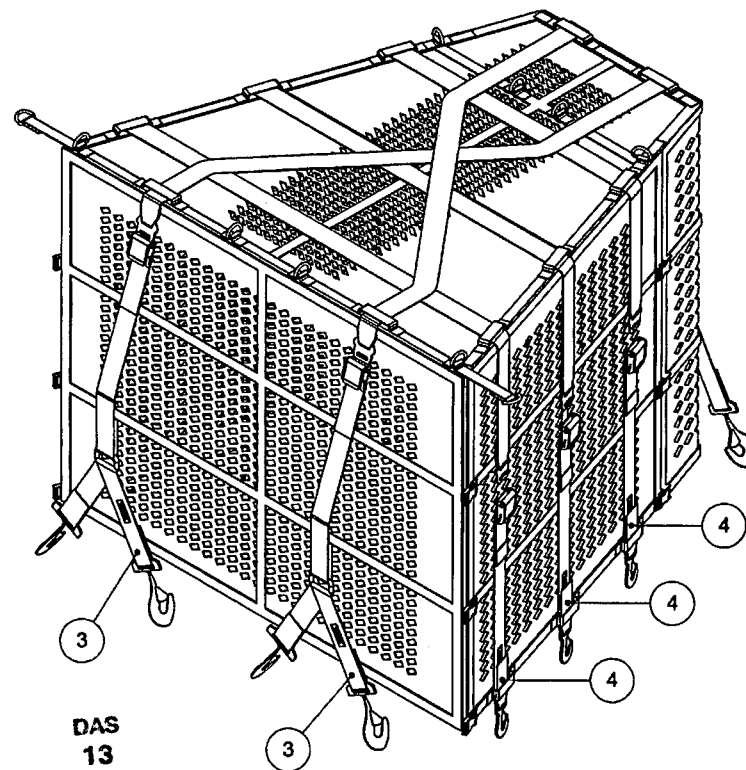
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
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Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐	
Misidentified ☐	Past Due ☐																																																														

ITEM	QTY -041	P/N	DESCRIPTION
	X	D139-1012-041	AW139 CARGO NET ASSY
1	1	D5366-041	CARGO NET ASSY
2	2	D5485-041	CONNECTOR TIE DOWN STRAP ASSY
3	2	D5485-043	BUCKLE TIE DOWN STRAP ASSY
4	6	D5486-041	BUCKLE TIE DOWN STRAP ASSY, SIDE
5	3	D5486-043	CONNECTOR TIE DOWN STRAP ASSY, SIDE



D139-1012-041 AW139 CARGO NET ASSEMBLY



DAS
13
9-89

MAY 24 2017

W10:162061

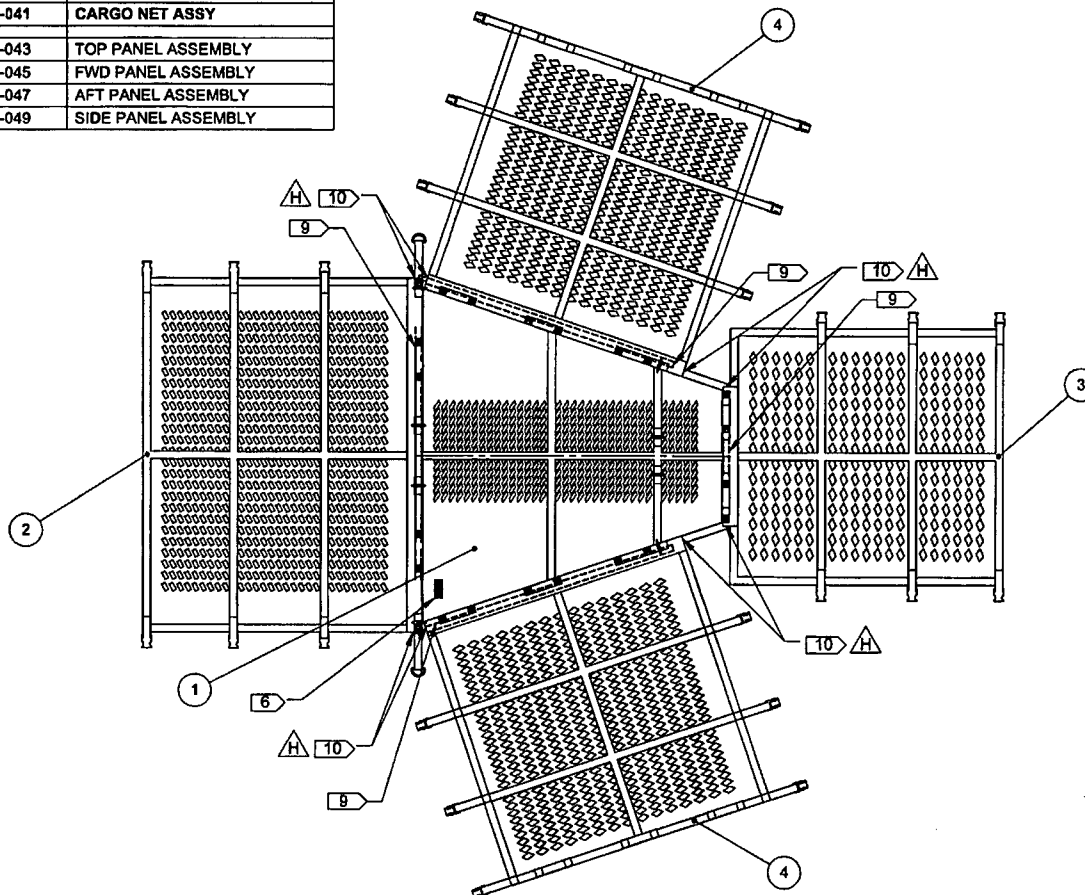
RELEASED
2017-02-07
EN 17-515

E	ITEM 2 WAS D5256-043, ITEM 3 WAS D5256-041, ITEM 4 WAS D5289-141 & ITEM 5 WAS D5289-13. ADDITIONAL ISO VIEW ADDED FOR CLARITY. REASON: CUSTOMER FEEDBACK.			AJS	17.01.20
D	PARTS LIST: D5289-13 WAS D5289-3. REASON: TYPO			AJS	16.10.05
C	PICTORIAL UPDATE DUE TO CHANGES IN D5366-041, ITEM 1 QTY WAS 4. ADDED ITEM 2. DELETED D5289-043/-045-047 REPLACED BY D5289-3. DELETED D5256-3 REPLACED BY D5256-043. ITEM 4 WAS D5289-041. REASON CUSTOMER FEEDBACK POST TRIAL FIT.			AJS	16.09.28
B	D5366-041 WAS D5249-041. REVISED D5256-3, D5289-043/-045/-047 DESCRIPTIONS			AK	16.02.09
A	NEW ISSUE			DB	15.08.22
REV.	DESCRIPTION			BY	DATE
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWN	DB				
CHECKED	ML	DRAWING NO.	REV. E		
MFG. APPR.	DD	D139-1012-041	SHEET 1 OF 1		
APPROVED	WM	TITLE	SCALE		
DE APPR.	DS	AW139 CARGO NET	NT		
DATE	17.01.20	COPYRIGHT © 2015 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMERCIALIZED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

APPROVED

ITEM	QTY	P/N	DESCRIPTION
	X	D5366-041	CARGO NET ASSY
1	1	D5366-043	TOP PANEL ASSEMBLY
2	1	D5366-045	FWD PANEL ASSEMBLY
3	1	D5366-047	AFT PANEL ASSEMBLY
4	2	D5366-049	SIDE PANEL ASSEMBLY

TABLE 1: TOLERANCES	RANGE
+/- 0.13	0<2"
+/- 0.25	2<10"
+/- 0.50	10<20"
+/- 0.63	20<40"
+/- 1.5%	>40"
+/- 5	ANGLES



D5366-041 CARGO NET ASSY

NOTES:

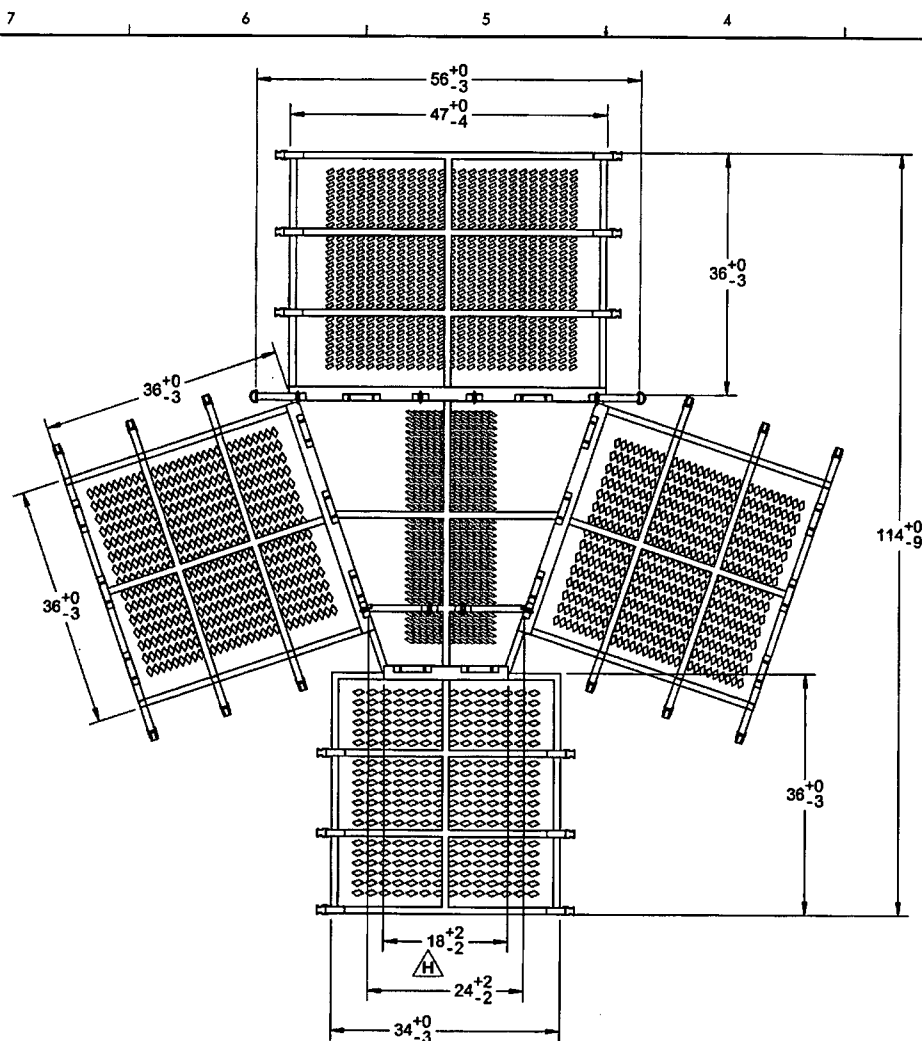
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER TABLE 1 UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: WITH SEWN ON LABEL "DART AEROSPACE LTD P/N D5366-041"
- 7) WEIGHT: 9 LBS (REFERENCE ONLY)
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH 0.8" X 0.8" BOX 'X' STITCHING TYPICAL AT ALL WEBBING INTERSECTIONS
- 9) D5366-045/-047/-049(2) PANEL ASSEMBLIES SEWN TO D5366-043 TOP PANEL ASSY WITH DOUBLE CONTINUOUS STITCH ALONG SEAM, 0.8 SPACING, CENTERED ON WEBBING
- 10) REINFORCE ALL "HINGE" CORNERS AS REQUIRED TO PREVENT THE HEAT-CUT ENDS FROM CRACKING

H	SHEET 1: ADDED NOTE 10. SHEET 2: ADD 18 DIM. SHEET 7 ALL LENGTH DIMENSIONS NOW REF ADD NOTE 8. REASON: CUSTOMER FEEDBACK.	WM	17.05.10
G	SHEETS 8, 9 & 10: DELETE -18. SHEETS 9, 12 & 15: UPDATE NOTE 9. MOVE VIEWS FOR -23 TO SHEET 10. SHEETS 11, 12 & 13: DELETED -28. SHEETS 14, 15 & 16: DELETE -37 (ALL STORAGE POCKETS DELETED). RELOCATE VIEWS FOR -31 TO SHEET 16. REASON: CUSTOMER FEEDBACK POST TRIAL INSTALLATION.	AJS	16.10.05
F	SHEETS 3 AND 4: ADDED (2) D-RINGS WITH LOOPS AND MOVED EXISTING D-RINGS OFF CENTER. D-RINGS ADDED TO UNDERSIDE. SHT 6: DELETED -53. SHEET 11: DELETED -31 AND REPLACE WITH -23. SHEET 14: DELETED -39 AND ADD 3X -7 AND 6X -31. SHEET 15: REDESIGN -31. REASON: CUSTOMER FEEDBACK POST TRIAL INSTALLATION.	AJS	16.09.27
E	SHT 3 ADDED ITEM 11. SHT 4 ADDED DETAIL A (D RING ROTATED 90). SHT 4 -51 WAS 41. SHT 6 ADDED -53. SHT 14 -39 WAS 38.0 LONG. REASON: FACILITATE INSTALLATION.	AJS	16.09.09
D	ADD SHEET 2 (INSPECTION DIMENSIONS), REVISE NOTE 3 (SHEETS 2-18), ADD TABLE 1: TOLERANCES (SHEET 1), 0.8 X 0.8 BOX STITCH WAS 1.8 X 0.8 (SHEET 4), CORRECT PART WEIGHT (SHEET 1, 2). REMOVE PART WEIGHTS (SH 7, 10, 13) ADD TYPE VIII TO 2" WEBBING MATERIAL (SHEET 8), ADDED TOLERANCES TO LOCATION OF D5366-41 ONTO D5366-043 (SHEET 4)	DB	16.08.09
C	MAKE WEIGHTS REFERENCE ONLY (NOTE 7 SH 1, 2, 8, 9, 12), ADD D5366-41 CARIBINER STRAP (2 PL, SH 2, 3), ADD D5366-5 D RING (2 PL), ADD D5366-21 D RING LOOP (2 PL, SH 2, 3)	DB	16.05.19
B	DELETE D5366-141, ADD D5321-5, D5366-21D RING LOOP WAS D5366-21 HANGER LOOP	DB	16.02.08
A	NEW ISSUE	DB	15.11.27
REV.	DESCRIPTION	BY	DATE

DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	WM		
CHECKED	WM	DRAWING NO.	REV. H
MFG. APPR.	DD	D5366	SHEET 1 OF 16
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	AW139 CARGO NET	NTS
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D5366-041 INCOMING INSPECTION DIMENSIONS

NOTES:

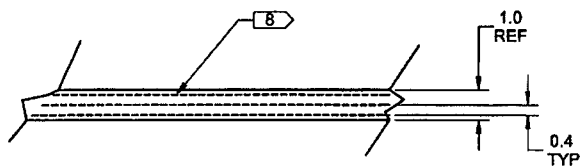
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: FOR INCOMING INSPECTION, AS INDICATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 9 LBS (REF)

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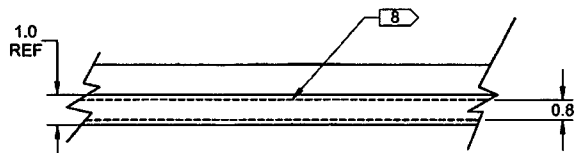
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DESIGN	DB	DART AEROSPACE LTD	
DRAWN	WM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	WM	DRAWING NO.	REV. H
MFG. APPR.	DD	D5366	SHEET 2 OF 18
APPROVED	WM	TITLE	SCALE
DE APPR.	DB	AW139 CARGO NET	NTS
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ITEM	QTY -043	P/N	DESCRIPTION
	X	D5366-043	TOP PANEL ASSY
1	12	D5321-5	D RING
2	1	D5366-1	TOP PANEL WEBBING
3	1	D5366-3	TOP PANEL MESH
4	4	D5366-5	LONG LOOP
5	6	D5366-7	SHORT LOOP
6	2	D5366-9	SIDE SEAM
7	1	D5366-11	FWD SEAM
8	1	D5366-13	AFT SEAM
9	8	D5366-21	D RING LOOP
10	2	D5366-51	CARABINER STRAP



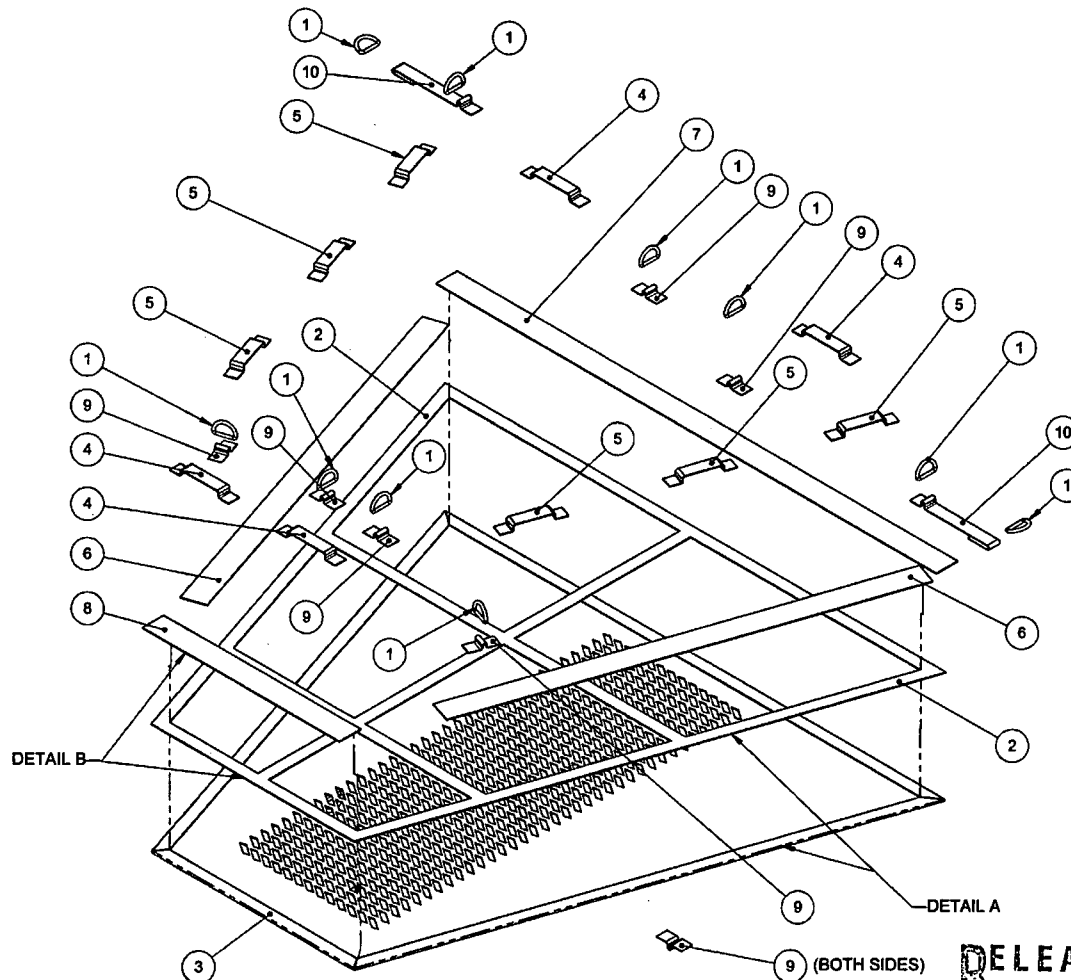
DETAIL A: TYPICAL MESH-TO-WEBBING STITCH PATTERN



DETAIL B: TYPICAL SEAM-TO-WEBBING STITCH PATTERN
(SHOWN FROM UNDERSIDE OF WEBBING, MESH REMOVED)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER TABLE 1, SH 1, UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH
- 0.8" X 0.8" BOX 'X' STITCHING TYPICAL AT ALL WEBBING INTERSECTIONS



D5366-043 TOP PANEL ASSY
(EXPLODED VIEW)

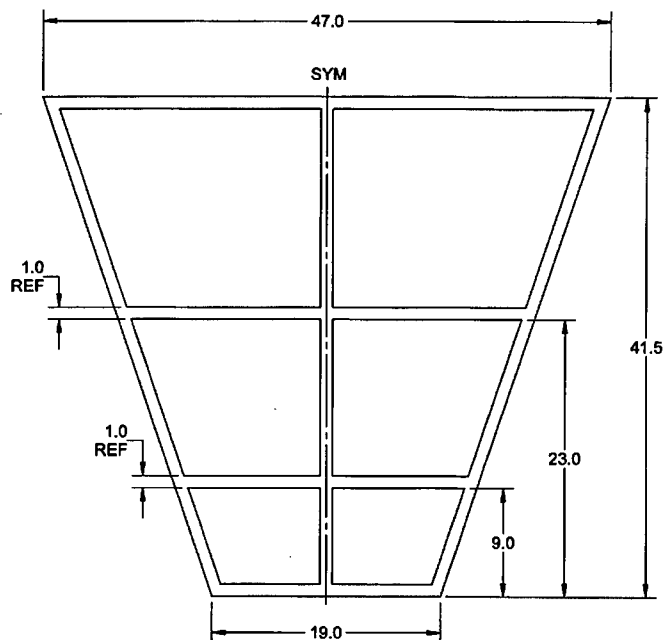
APPROVED

DESIGN	DB
DRAWN	WM
CHECKED	WM
MFG. APPR.	DD
APPROVED	WM
DE APPR.	DS
DATE	17.05.10

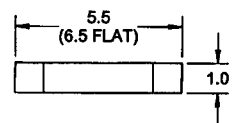
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D5366	REV. H SHEET 3 OF 16
TITLE AW139 CARGO NET	SCALE NTS
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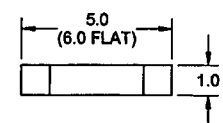
8 7 6 5 4 3 2 1



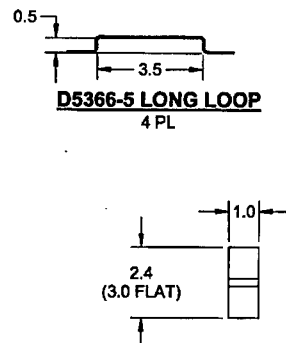
D5366-1 TOP PANEL WEBBING



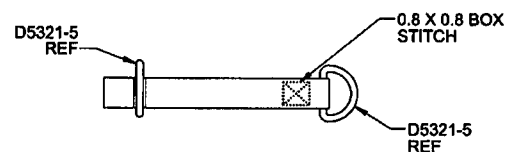
D5366-5 LONG LOOP
4 PL



D5366-7 SHORT LOOP
6 PL



D5366-21 D RING LOOP



D5366-51 CARABINER STRAP

NOTES:

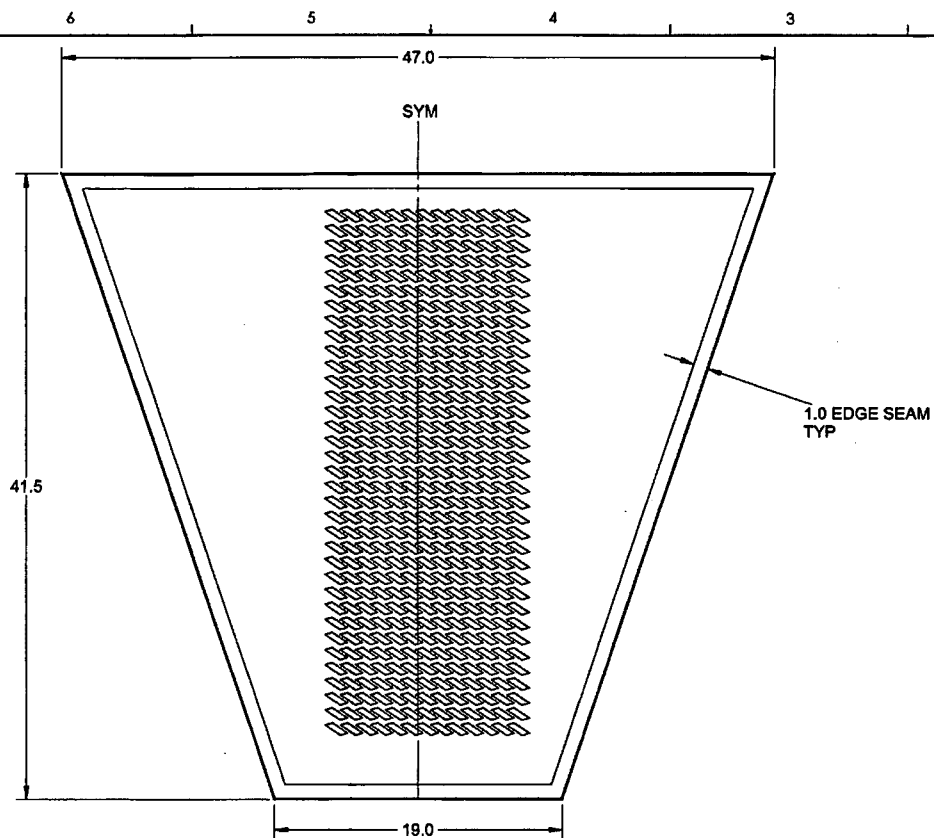
- 1) MATERIAL: WEBBING MATERIAL: 1" NYLON, MIL-W-4088, TYPE XVII, CLASS 1 OR 1A, COLOR BLACK
THREAD: NYLON THREAD TO BE USED FOR ALL SEAMS CONFORMING TO V-T-295 TYPE II
(OR A-A-59826) CLASS A, SIZE FF, COLOR BLACK
- 2) FINISH: NONE
- 3) TOLERANCES: PER TABLE 1, SH 1, UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH
0.8" X 0.8" BOX 'X' STITCHING TYPICAL AT ALL WEBBING INTERSECTIONS.

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DESIGN	DB	DART AEROSPACE LTD	
DRAWN	WM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	WM	DRAWING NO.	REV. H
MFG. APPR.	DD	D5366	SHEET 5 OF 16
APPROVED	WM	TITLE	SCALE
DE APPR.	DS-#	AW139 CARGO NET	NTS
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8 7 6 5 4 3 2 1



D5366-3 TOP PANEL MESH

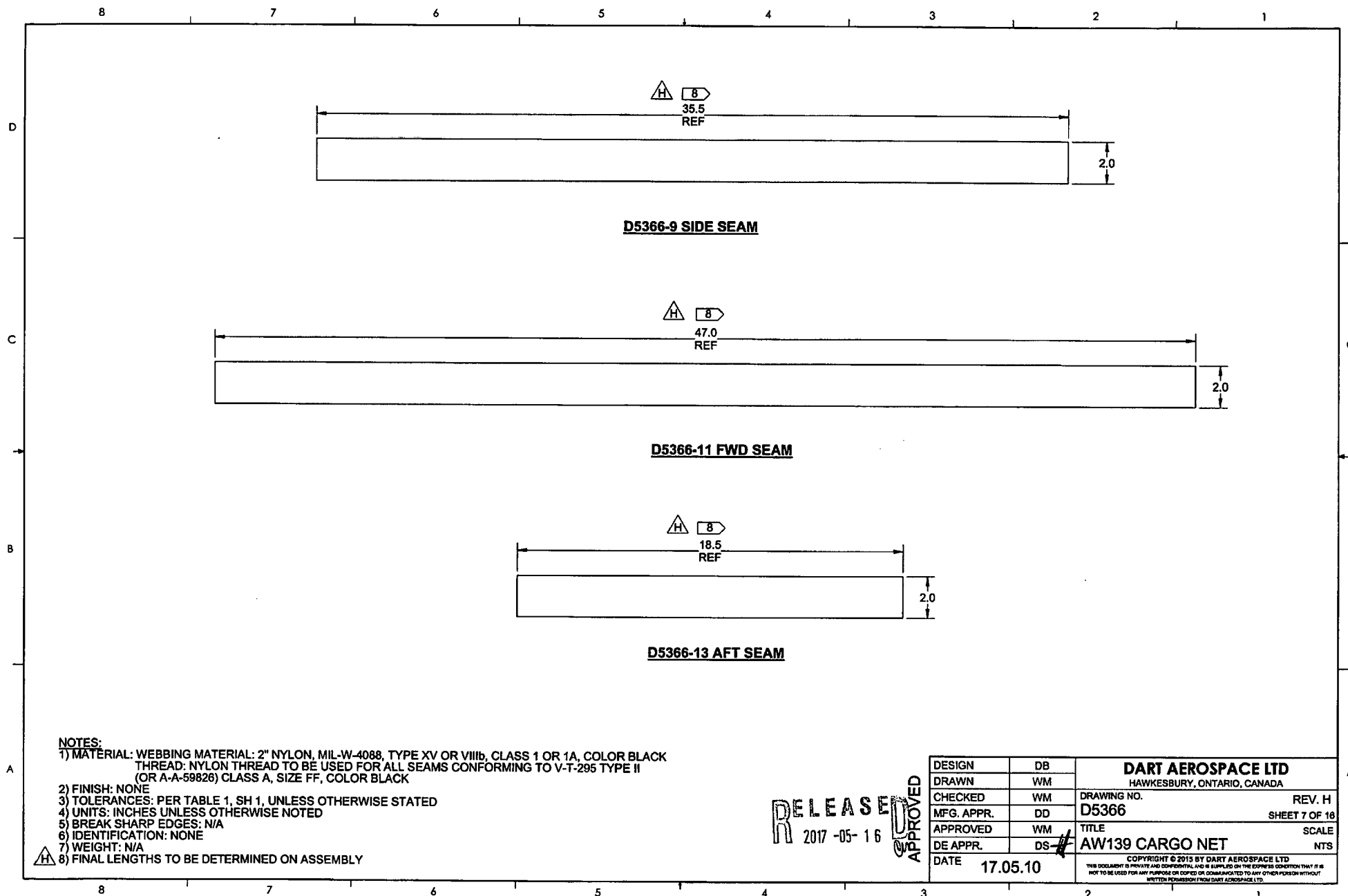
NOTES:

- 1) MATERIAL: 100% H.T. NYLON MESH BLACK (NOM. 12 X 24 HOLES PER INCH), 0.045 THICK, STYLE TP21J (APEX MILLS CORPORATION)
OR MARION #8885
- 2) FINISH: NONE
- 3) TOLERANCES: PER TABLE 1, SH 1, UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

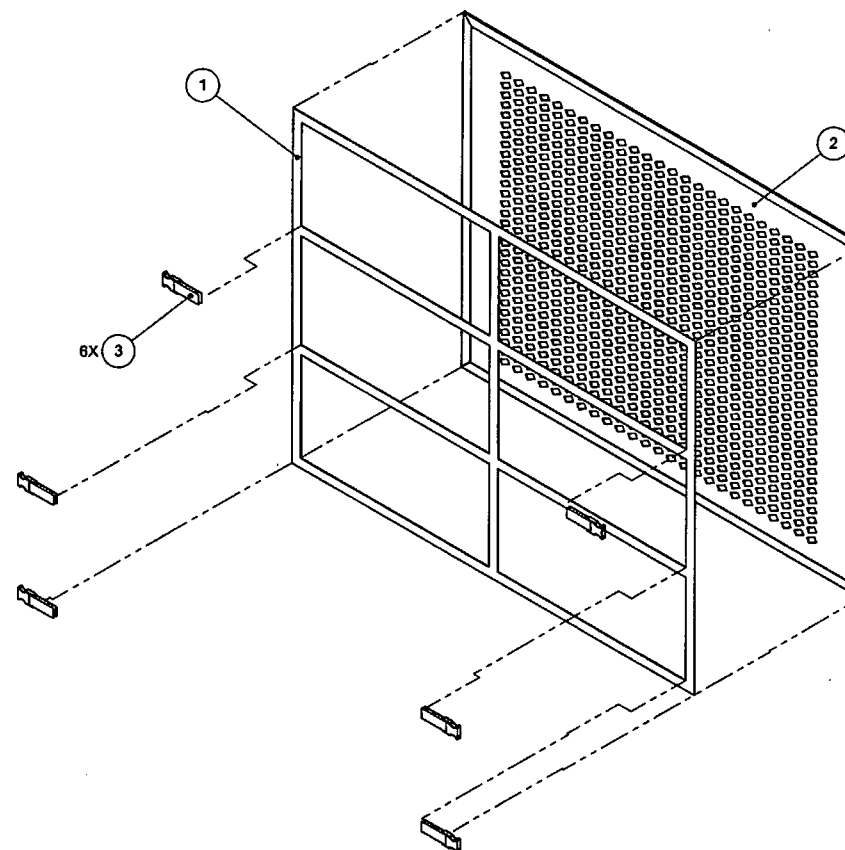
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DESIGN	DB	DART AEROSPACE LTD	
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MFG. APPR.	DD	D5366	SHEET 6 OF 16
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ITEM	QTY -045	P/N	DESCRIPTION
	X	D5366-045	FWD PANEL ASSY
1	1	D5366-15	FWD PANEL WEBBING
2	1	D5366-17	FWD PANEL MESH
3	6	D5366-23	BUCKLE STRAP



D5366-045 FWD PANEL ASSY
(EXPLODED VIEW)

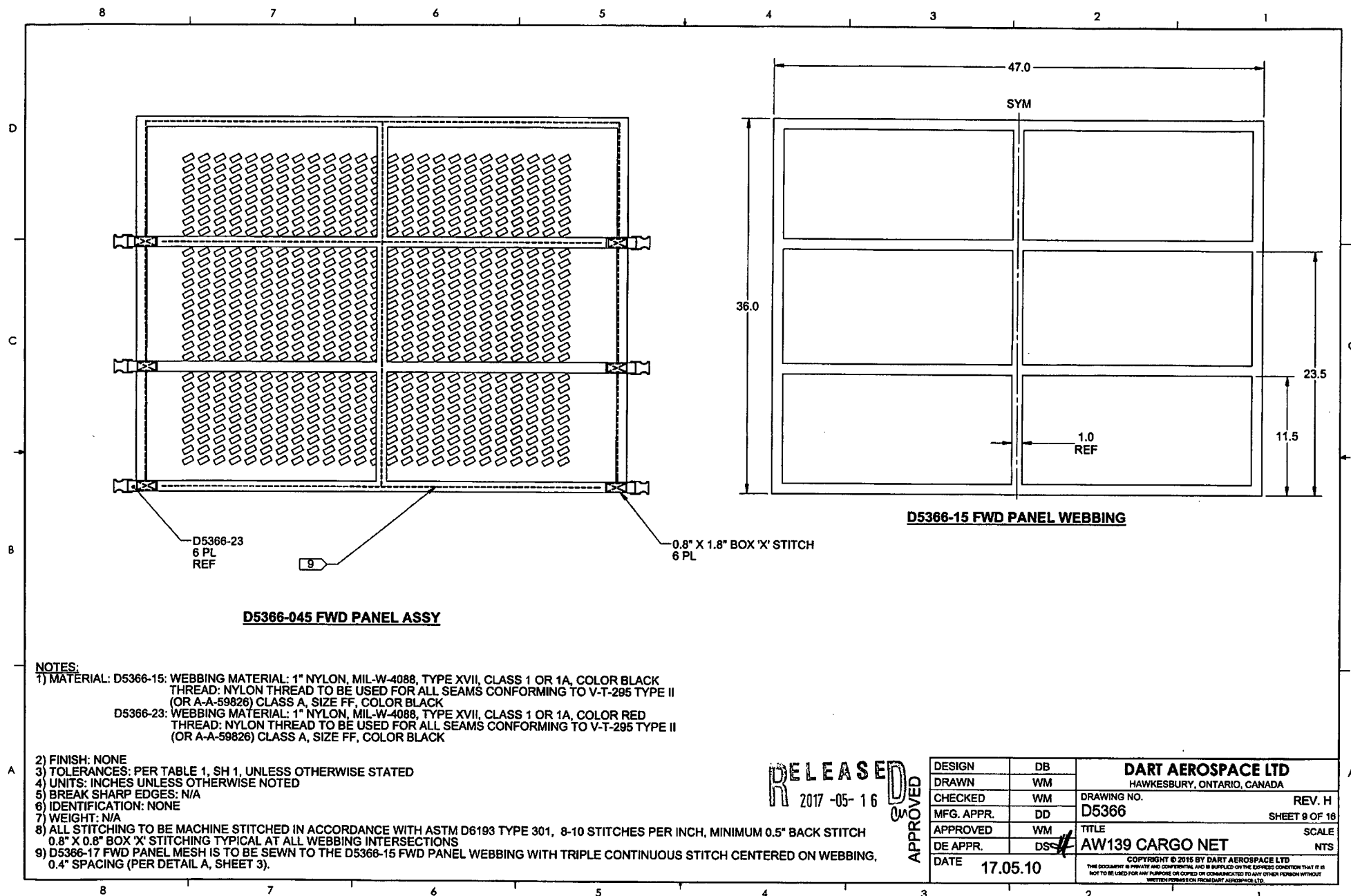
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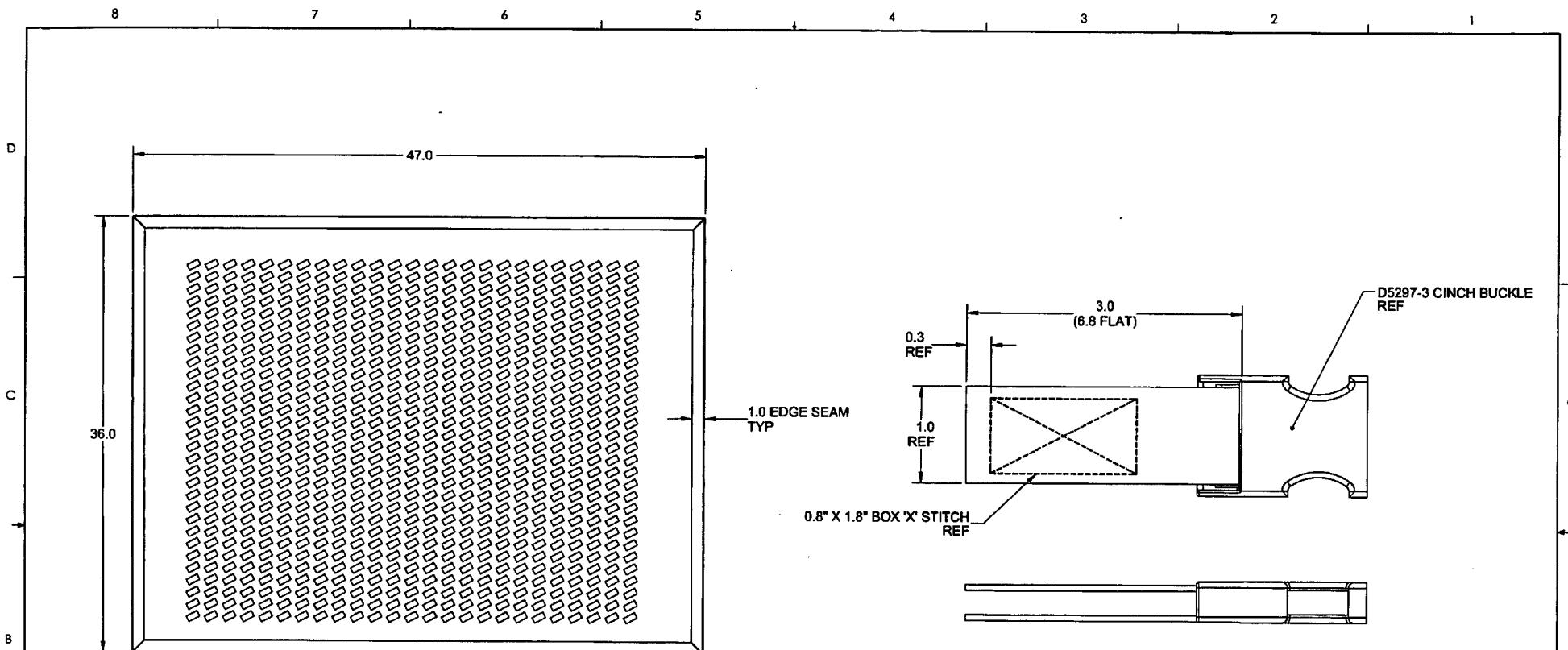
- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER TABLE 1, SH 1, UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH
0.8" X 0.8" BOX 'X' STITCHING TYPICAL AT ALL WEBBING INTERSECTIONS

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2017-05-16
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DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	WM		
CHECKED	WM	DRAWING NO.	REV. H
MFG. APPR.	DD	D5366	SHEET 8 OF 16
APPROVED	WM	TITLE	SCALE
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17.05.10			





D5366-17 FWD PANEL MESH

D5366-23 BUCKLE STRAP
6 PL

NOTES:

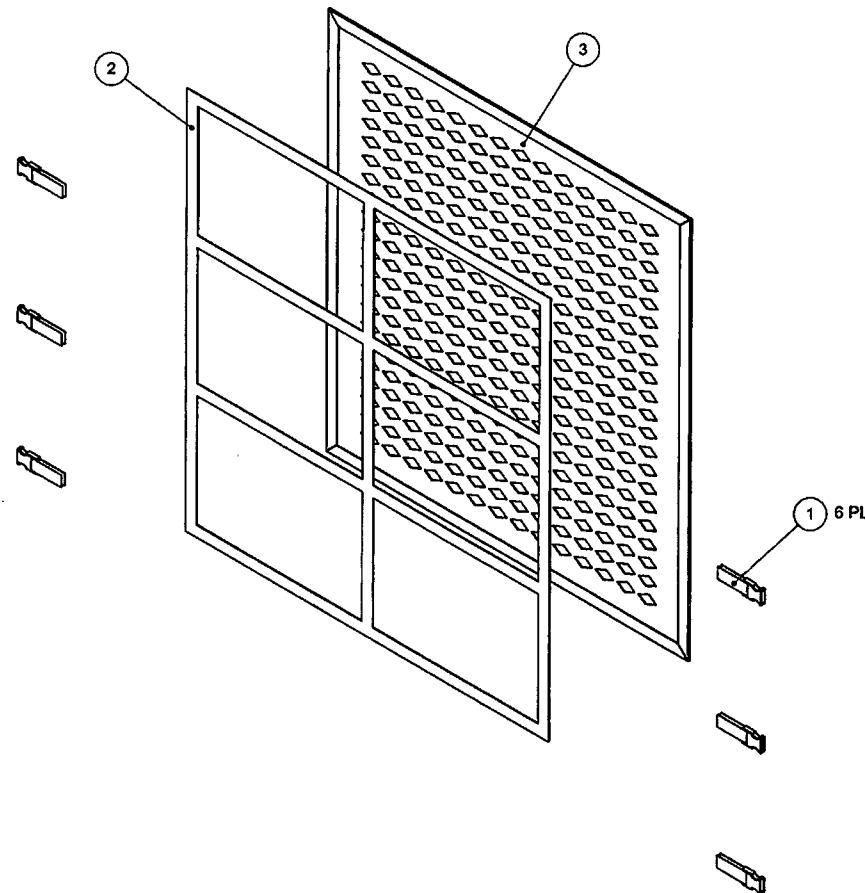
- 1) MATERIAL: 100% H.T. NYLON MESH BLACK (NOM. 12 X 24 HOLES PER INCH), 0.045 THICK, STYLE TP21J (APEX MILLS CORPORATION) OR MARION #8885
- 2) FINISH: NONE
- 3) TOLERANCES: PER TABLE 1, SH 1, UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

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2017-05-16

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DESIGN	DB	DART AEROSPACE LTD	
DRAWN	WM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	WM	DRAWING NO.	REV. H
MFG. APPR.	DD	D5366	SHEET 10 OF 16
APPROVED	WM	TITLE	SCALE
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ITEM	QTY -047	P/N	DESCRIPTION
	X	D5366-047	AFT PANEL ASSY
1	6	D5366-23	BUCKLE STRAP
2	1	D5366-25	AFT PANEL WEBBING
3	1	D5366-27	AFT PANEL MESH



D5366-047 AFT PANEL ASSY
(EXPLODED VIEW)

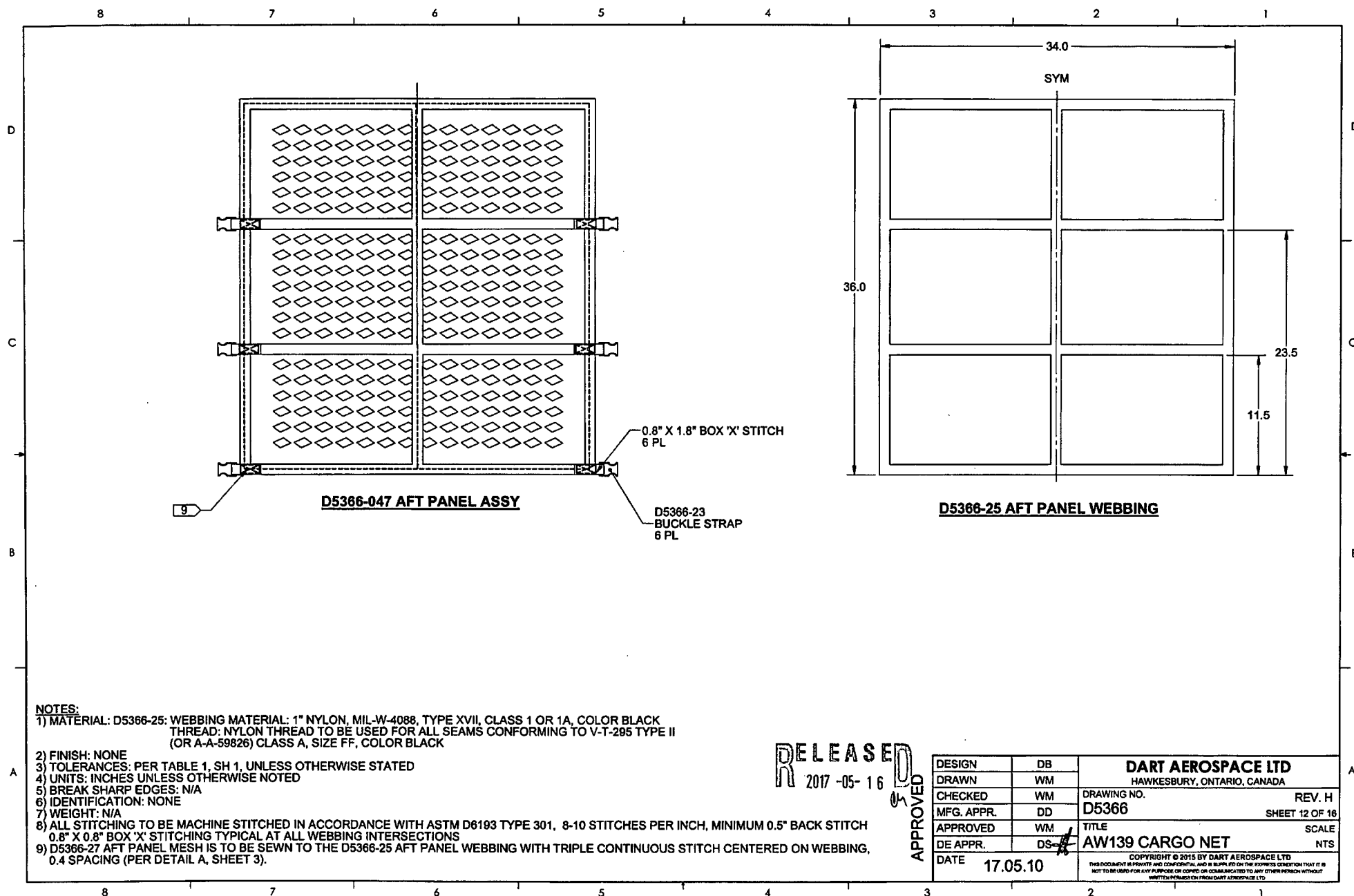
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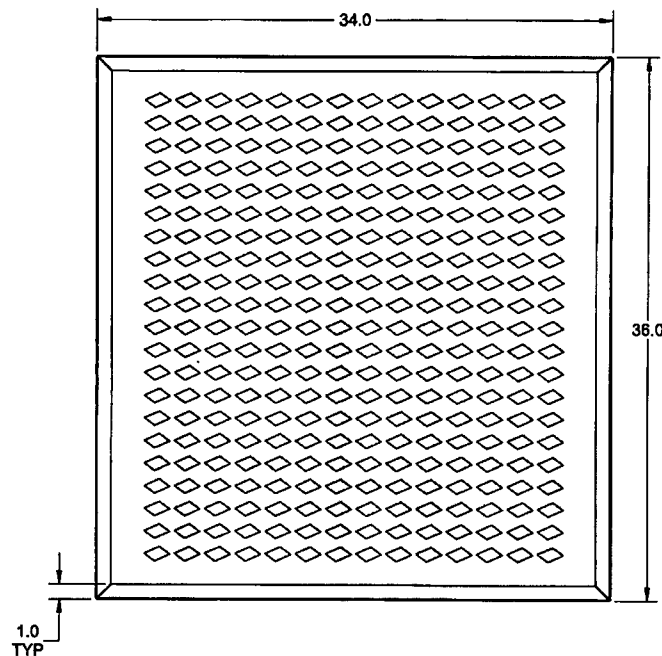
- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER TABLE 1, SH 1, UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH
0.8" X 0.8" BOX 'X' STITCHING TYPICAL AT ALL WEBBING INTERSECTIONS

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2017-05-16

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DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	WM		
CHECKED	WM	DRAWING NO.	REV. H
MFG. APPR.	DD	D5366	SHEET 11 OF 18
APPROVED	WM	TITLE	SCALE
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D5366-27 AFT PANEL MESH

NOTES:

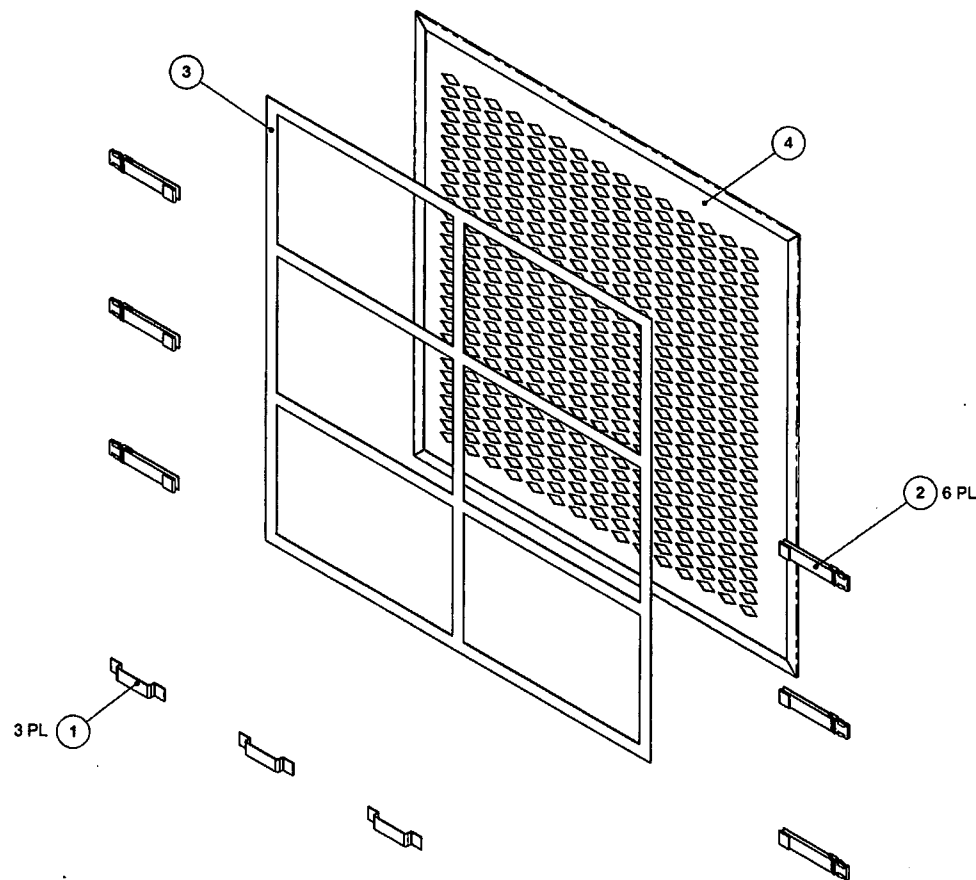
- 1) MATERIAL: 100% H.T. NYLON MESH BLACK (NOM. 12 X 24 HOLES PER INCH), 0.045 THICK, STYLE TP21J (APEX MILLS CORPORATION)
OR MARION #8885
- 2) FINISH: NONE
- 3) TOLERANCES: PER TABLE 1, SH 1, UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

RELEASED
2017-05-16

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DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	WM		
CHECKED	WM	DRAWING NO.	REV. H
MFG. APPR.	DD	D5366	SHEET 13 OF 16
APPROVED	WM	TITLE	SCALE
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ITEM	QTY	P/N	DESCRIPTION
	X	D5366-049	SIDE PANEL ASSY
1	3	D5366-7	SHORT LOOP
2	6	D5366-31	CINCH STRAP
3	1	D5366-33	SIDE PANEL WEBBING
4	1	D5366-35	SIDE PANEL MESH



D5366-049 SIDE PANEL ASSY
(EXPLODED VIEW)

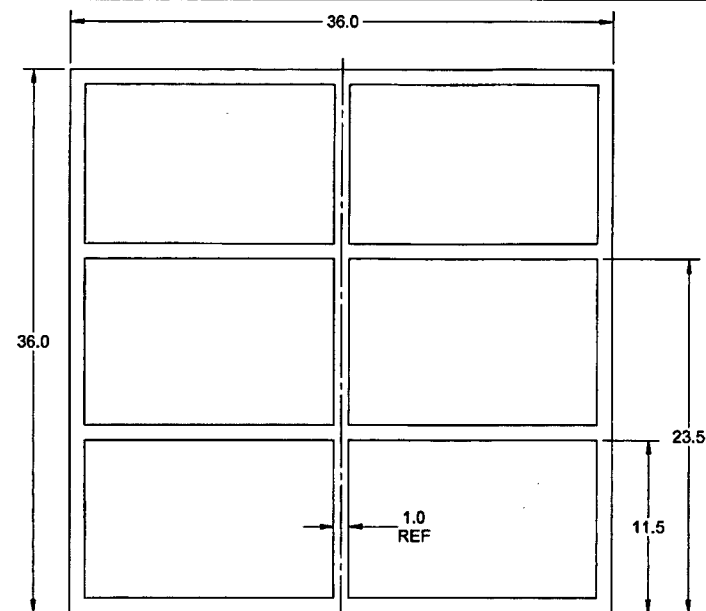
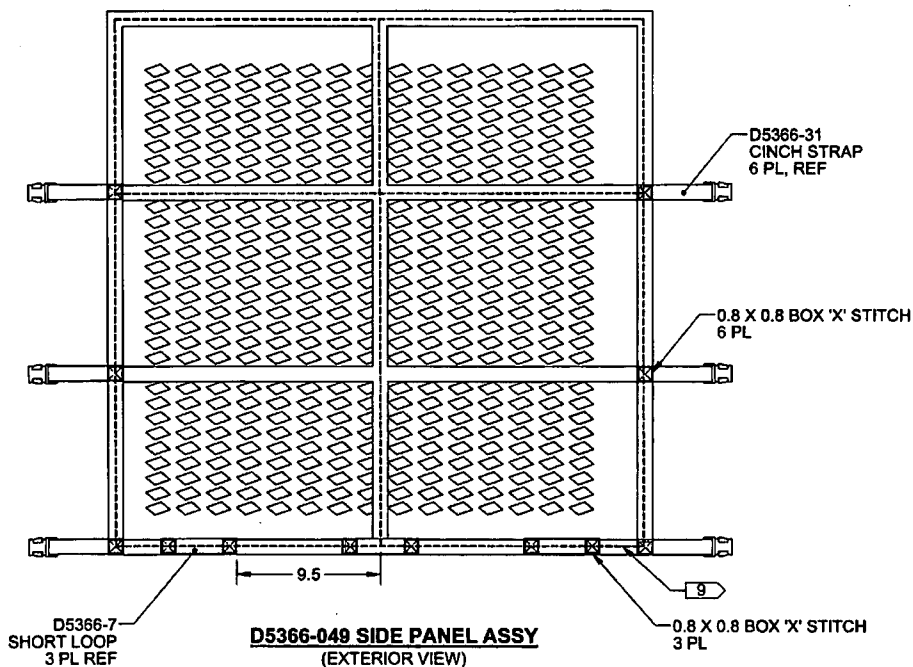
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER TABLE 1, SH 1, UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH
0.8" X 0.8" BOX 'X' STITCHING TYPICAL AT ALL WEBBING INTERSECTIONS

RELEASED
2017-05-16
APPROVED

DESIGN	DB	DART AEROSPACE LTD	
DRAWN	WM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	WM	DRAWING NO.	REV. H
MFG. APPR.	DD	D5366	SHEET 14 OF 16
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	AW139 CARGO NET	NTS
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8 7 6 5 4 3 2 1



D5366-33 SIDE PANEL WEBBING

NOTES:

- 1) MATERIAL: D5366-33: WEBBING MATERIAL: 1" NYLON, MIL-W-4088, TYPE XVII, CLASS 1 OR 1A, COLOR BLACK
THREAD: NYLON THREAD TO BE USED FOR ALL SEAMS CONFORMING TO V-T-295 TYPE II
(OR A-A-59826) CLASS A, SIZE FF, COLOR BLACK
D5366-31: WEBBING MATERIAL: 1" NYLON, MIL-W-4088, TYPE XVII, CLASS 1 OR 1A, COLOR RED
THREAD: NYLON THREAD TO BE USED FOR ALL SEAMS CONFORMING TO V-T-295 TYPE II
(OR A-A-59826) CLASS A, SIZE FF, COLOR BLACK

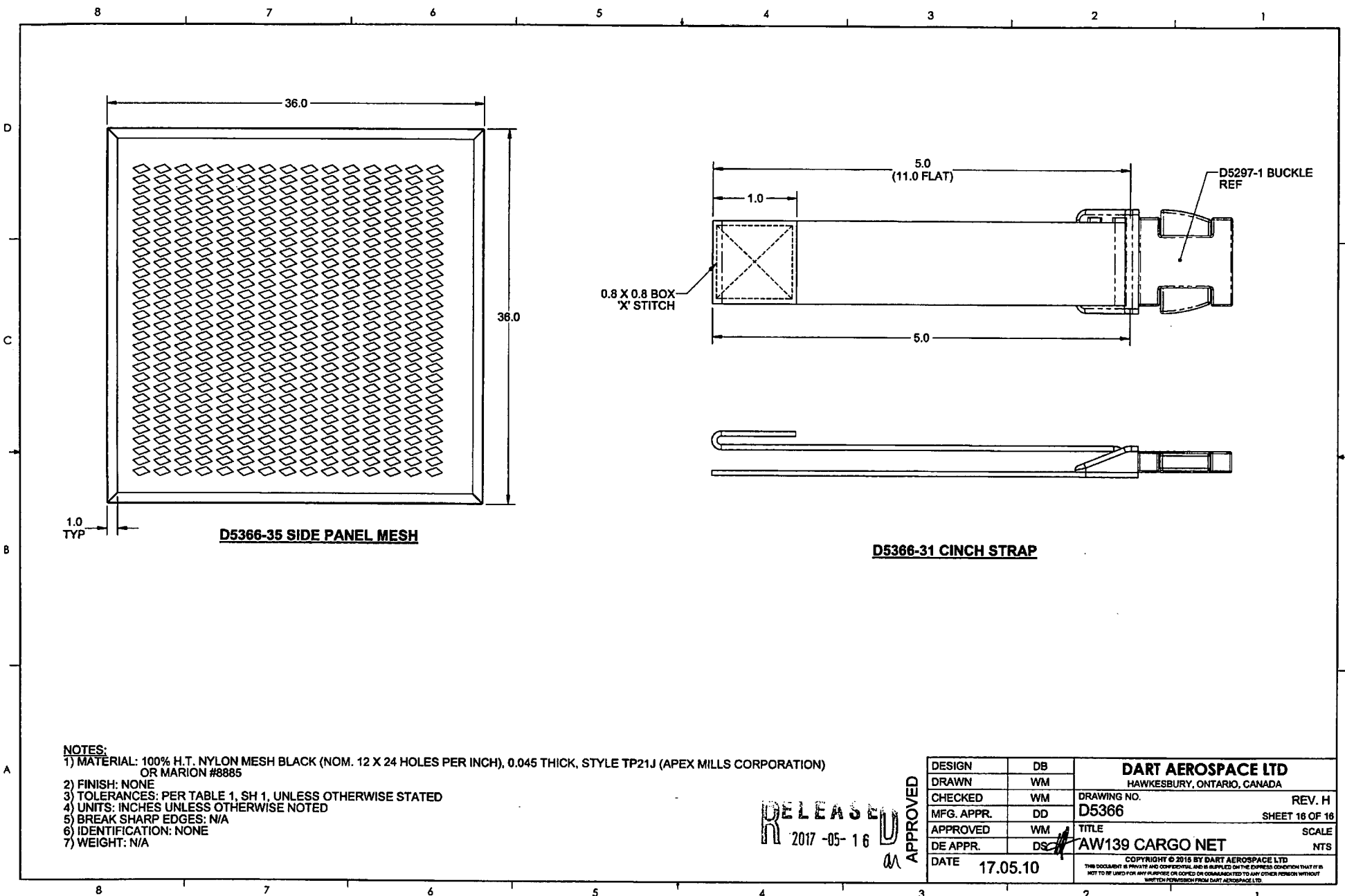
- 2) FINISH: NONE
- 3) TOLERANCES: PER TABLE 1, SH 1, UNLESS OTHERWISE STATED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH
0.8" X 0.8" BOX 'X' STITCHING TYPICAL AT ALL WEBBING INTERSECTIONS
- 9) D5366-35 SIDE PANEL MESH IS TO BE SEWN TO THE D5366-33 SIDE PANEL WEBBING WITH TRIPLE CONTINUOUS STITCH CENTERED ON WEBBING,
0.4 SPACING (PER DETAIL A, SHEET 3).

RELEASED
2017-05-16

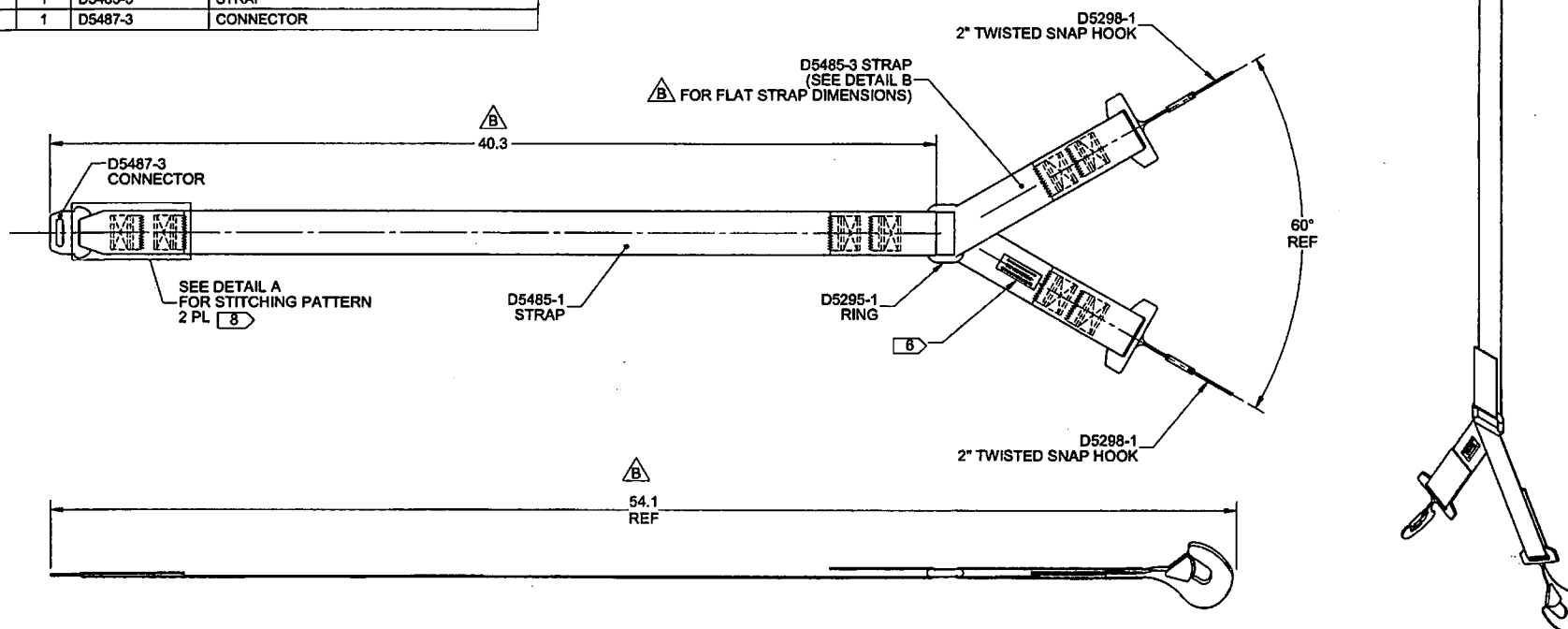
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DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	WM		
CHECKED	WM	DRAWING NO.	REV. H
MFG. APPR.	DD	D5366	SHEET 15 OF 16
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	AW139 CARGO NET	NTS
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8 7 6 5 4 3 2 1



ITEM	QTY -041	P/N	DESCRIPTION
	X	D5485-041	CONNECTOR TIE DOWN STRAP ASSY
1	1	D5295-1	RING
2	2	D5298-1	2" TWISTED SNAP HOOK
3	1	D5485-1	STRAP
4	1	D5485-3	STRAP
5	1	D5487-3	CONNECTOR



D5485-041 CONNECTOR TIE DOWN STRAP ASSY

NOTES:

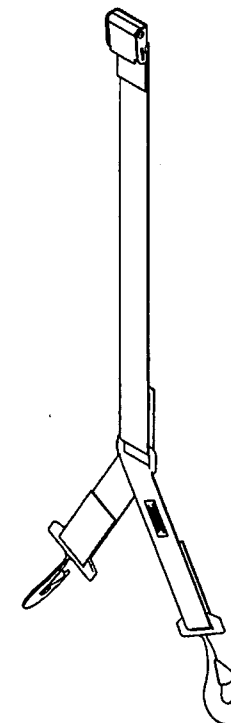
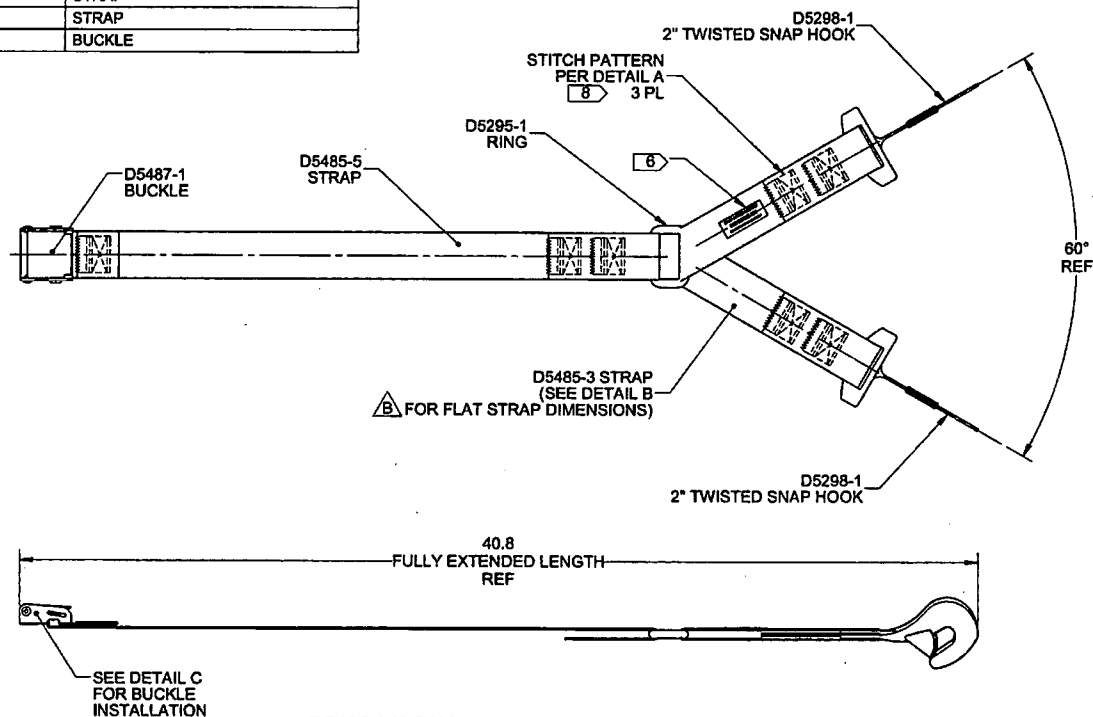
- 1) MATERIAL: WEBBING MATERIAL: 2" NYLON, RED WEBBING, PER MIL-W-4088 TYPE XXIV CLASS 1A, (ACCEPTABLE TO SUBSTITUTE BLACK WEBBING FOR RED PER CUSTOMER PREFERENCE)
WEBBING MUST MEET 2.5" HORIZONTAL BURN TEST PER FAR 29.853A3
WEBBING THREAD: V-T-295 TYPE II (OR A-A-59826), CLASS A SIZE 3, NYLON, BLACK
- 2) FINISH: ALL CUT EDGES TO BE HEAT SEALED
- 3) TOLERANCES: ± 0.13 FOR DIMENSIONS < 2.0
 ± 0.25 FOR DIMENSIONS 2.0 TO < 10.0
 ± 0.50 FOR DIMENSIONS 10.0 TO < 20.0
 ± 0.63 FOR DIMENSIONS 20.0 TO < 40.0
 $\pm 1.5\%$ FOR DIMENSIONS EQUAL TO OR > 40.0
 $\pm 5.0^\circ$ ON ANGLES
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: WITH SEWN ON LABEL "DART AEROSPACE LTD. P/N D5485-041"
- 7) WEIGHT: 1.7 lbs APPROXIMATE
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH

B	SHEETS 1, 2 & 4: TOLERANCE BLOCK UPDATED. SHEET 1: 54.1 DIM WAS 84.2, ZONE C8 & C4 ADDED 4.8 DIM FOR "FOLD BACK" TO HOLD HARDWARE, ADDED 40.3 DIM. SHEET 2: ZONE C4 & C5 ADD 4.8 DIM FOR "FOLD BACK" TO HOLD HARDWARE. SHEET 3: ADDED DETAIL B, DETAIL C WAS DETAIL B, DETAIL C DIM FOR DOUBLE BACK WAS 1.5. SHEET 4: ROUNDED UP ALL STRAP LENGTHS AND ADDED NOTE 8. REASON: FEED BACK POST TRIAL FIT.		AJS	17.02.08
	A	NEW ISSUE	AJS	17.01.20
REV.	DESCRIPTION		BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	AJS			
CHECKED	WM	DRAWING NO.	REV. B	
MFG. APPR.	DD	D5485	SHEET 1 OF 4	
APPROVED	WM	TITLE	SCALE	
DE APPR.	DS	NET TIE DOWN STRAP ASSY	NTS	
DATE	17.02.08	COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		

RELEASED
2017-02-10
EN 17-520

APPROVED

ITEM	QTY -043	P/N	DESCRIPTION
	X	D5485-043	BUCKLE TIE DOWN STRAP ASSY
1	1	D5295-1	RING
2	2	D5298-1	2" TWISTED SNAP HOOK
3	1	D5485-3	STRAP
4	1	D5485-5	STRAP
5	1	D5487-1	BUCKLE



D5485-043 BUCKLE TIE DOWN STRAP ASSY

NOTES:

1) MATERIAL: WEBBING MATERIAL: 2" NYLON, RED WEBBING, PER MIL-W-4088 TYPE XXIV CLASS 1A, (ACCEPTABLE TO SUBSTITUTE BLACK WEBBING FOR RED PER CUSTOMER PREFERENCE)
WEBBING MUST MEET 2.5" HORIZONTAL BURN TEST PER FAR 29.853A3
WEBBING THREAD: V-T-295 TYPE II (OR A-A-59826), CLASS A SIZE 3, NYLON, BLACK

2) FINISH: ALL CUT EDGES TO BE HEAT SEALED

3) TOLERANCES: +/- 0.13 FOR DIMENSIONS < 2.0
+/- 0.25 FOR DIMENSIONS 2.0 TO < 10.0
+/- 0.50 FOR DIMENSIONS 10.0 TO < 20.0
+/- 0.63 FOR DIMENSIONS 20.0 TO < 40.0
+/- 1.5% FOR DIMENSIONS EQUAL TO OR > 40.0
+/- 5.0° ON ANGLES

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: N/A

6) IDENTIFICATION: WITH SEWN ON LABEL "DART AEROSPACE LTD. P/N D5485-043"

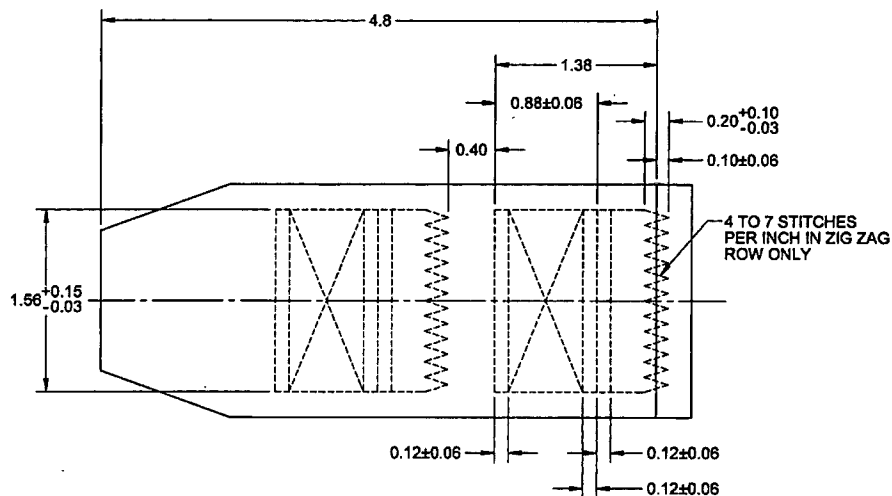
7) WEIGHT: 2.0 lbs APPROXIMATE

8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH

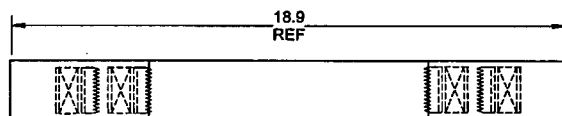
RELEASED
2017-02-10

APPROVED

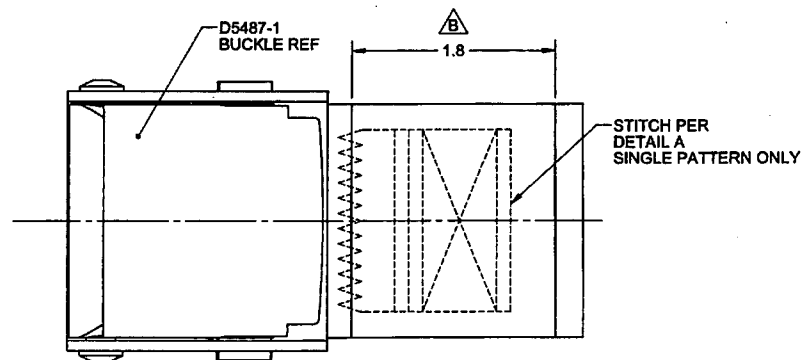
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	WM	DRAWING NO.	REV. B
MFG. APPR.	DD	D5485	SHEET 2 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	NET TIE DOWN STRAP ASSY NTS	
DATE	17.02.08	COPYRIGHT © 2017 BY DART AEROSPACE LTD	
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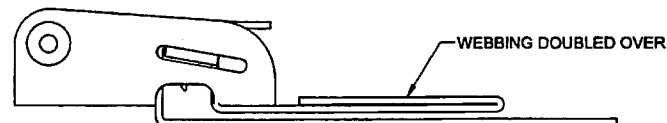
DETAIL A: STITCHING PATTERN



DETAIL B
D5485-3 STRAP SHOWN FLAT WITH FOLD BACKS SEWN $\triangle$
(D5298-1 HOOKS REMOVED FOR CLARITY)
REFERENCE ONLY



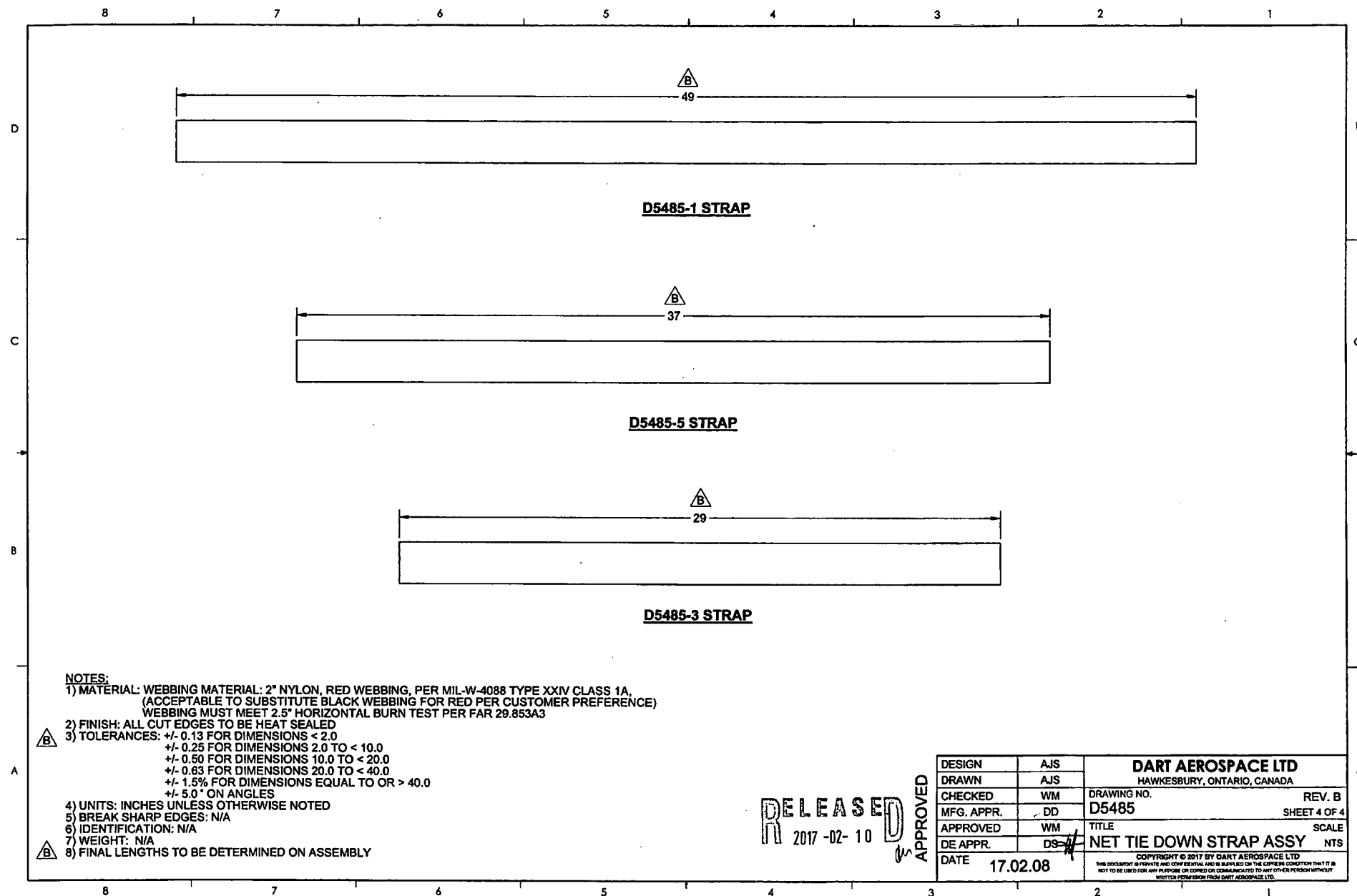
DETAIL C
(BUCKLE INSTALLATION) $\triangle$



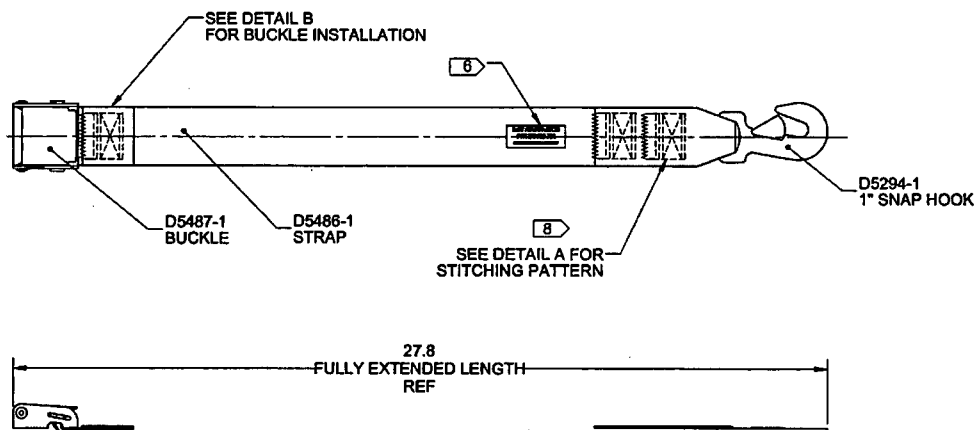
RELEASED
2017-02-10

APPROVED

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	WM	DRAWING NO.	REV. B
MFG. APPR.	DD	D5485	SHEET 3 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	NET TIE DOWN STRAP ASSY	NTS
DATE	17.02.08	COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



ITEM	QTY	P/N	DESCRIPTION
	X	D5486-041	BUCKLE TIE DOWN STRAP ASSY, SIDE
1	1	D5294-1	1" SNAP HOOK
2	1	D5486-1	STRAP
3	1	D5487-1	BUCKLE



D5486-041 BUCKLE TIE DOWN STRAP ASSY, SIDE

NOTES:

- 1) MATERIAL: WEBBING MATERIAL: 2" NYLON, RED WEBBING, PER MIL-W-4088 TYPE XXIV CLASS 1A, (ACCEPTABLE TO SUBSTITUTE BLACK WEBBING FOR RED PER CUSTOMER PREFERENCE)
WEBBING MUST MEET 2.5" HORIZONTAL BURN TEST PER FAR 28.853A3
WEBBING THREAD: V-T-295 TYPE II (OR A-A-59826), CLASS A SIZE 3, NYLON, BLACK
- 2) FINISH: ALL CUT EDGES TO BE HEAT SEALED
- 3) TOLERANCES: +/- 0.13 FOR DIMENSIONS < 2.0
+/- 0.25 FOR DIMENSIONS 2.0 TO < 10.0
+/- 0.50 FOR DIMENSIONS 10.0 TO < 20.0
+/- 0.63 FOR DIMENSIONS 20.0 TO < 40.0
+/- 1.5% FOR DIMENSIONS EQUAL TO OR > 40.0
+/- 5.0° ON ANGLES
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: WITH SEWN ON LABEL "DART AEROSPACE LTD. P/N D5486-041"
- 7) WEIGHT: 0.8 lbs APPROXIMATE
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH

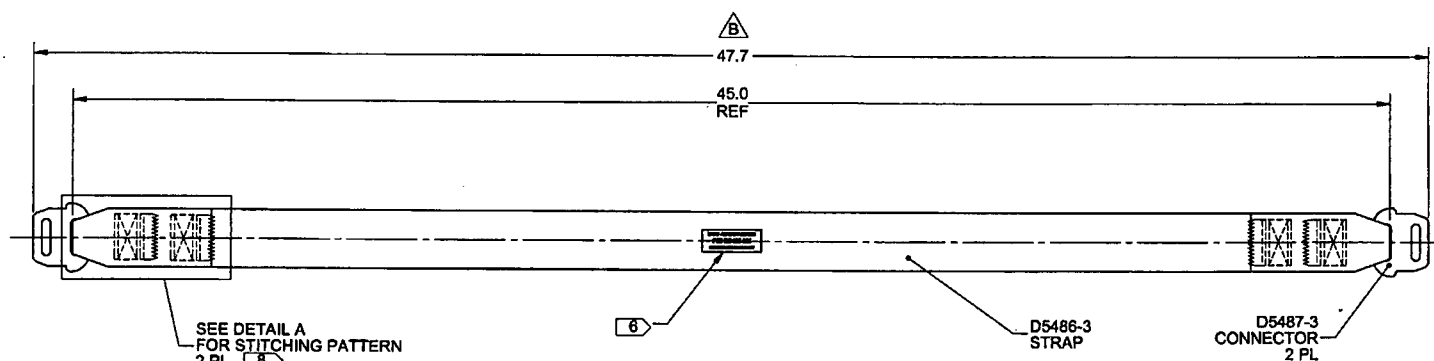
B	SHEETS 1, 2 & 3: TOLERANCE BLOCK UPDATED. SHEET 2: 47.7 DIM WAS 67.7. DIM FOR -3 ON SHEET 4 UPDATED ACCORDINGLY. SHEET 3 DETAIL A: ADDED 4.8 DIM A FOR "FOLD BACK" TO HOLD HARDWARE. SHEET 4: ADDED NOTE 8. REASON: FEEDBACK POST TRIAL FIT.	AJS	17.02.08
A	NEW ISSUE	AJS	17.01.23
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	WM	DRAWING NO.	REV. B
MFG. APPR.	DD	D5486	SHEET 1 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SIDE TIE DOWN STRAP ASSY, NET	NTS
DATE	17.02.08	COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED
2017-02-10

6W 17-520

APPROVED

ITEM	QTY -043	P/N	DESCRIPTION
	X	D5486-043	CONNECTOR TIE DOWN STRAP ASSY, SIDE
1	1	D5486-3	STRAP
2	2	D5487-3	CONNECTOR



D5486-043 CONNECTOR TIE DOWN STRAP ASSY. SIDE

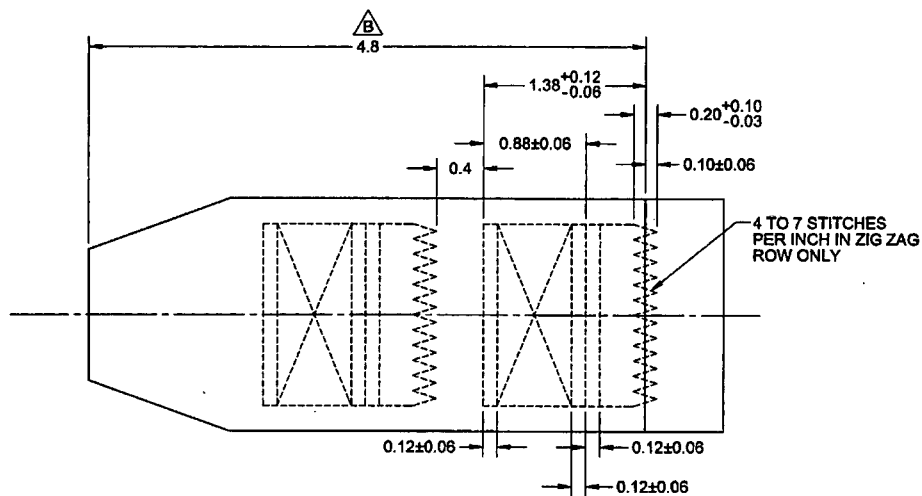
NOTES:

- 1) MATERIAL: WEBBING MATERIAL: 2" NYLON, RED WEBBING, PER MIL-W-4088 TYPE XXIV CLASS 1A, (ACCEPTABLE TO SUBSTITUTE BLACK WEBBING FOR RED PER CUSTOMER PREFERENCE)
WEBBING MUST MEET 2.5" HORIZONTAL BURN TEST PER FAR 29.853A3
WEBBING THREAD: V-T-295 TYPE II (OR A-A-59826), CLASS A SIZE 3, NYLON, BLACK
- 2) FINISH: ALL CUT EDGES TO BE HEAT SEALED
- 3) TOLERANCES: ± 0.13 FOR DIMENSIONS < 2.0
 ± 0.25 FOR DIMENSIONS 2.0 TO < 10.0
 ± 0.50 FOR DIMENSIONS 10.0 TO < 20.0
 ± 0.63 FOR DIMENSIONS 20.0 TO < 40.0
 $\pm 1.5\%$ FOR DIMENSIONS EQUAL TO OR > 40.0
 $\pm 5.0^\circ$ ON ANGLES
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: WITH SEWN ON LABEL "DART AEROSPACE LTD. P/N D5486-043"
- 7) WEIGHT: 0.6 lbs APPROXIMATE
- 8) ALL STITCHING TO BE MACHINE STITCHED IN ACCORDANCE WITH ASTM D6193 TYPE 301, 8-10 STITCHES PER INCH, MINIMUM 0.5" BACK STITCH

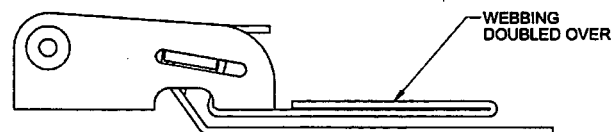
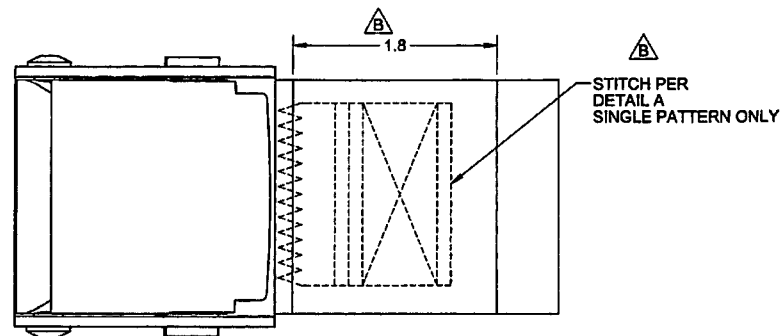
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	WM	DRAWING NO.	REV. B
MFG. APPR.	DD	D5486	SHEET 2 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SIDE TIE DOWN STRAP ASSY, NET	NTS
DATE	17.02.08	COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED
2017-02-10

APPROVED



8 DETAIL A: STITCHING PATTERN

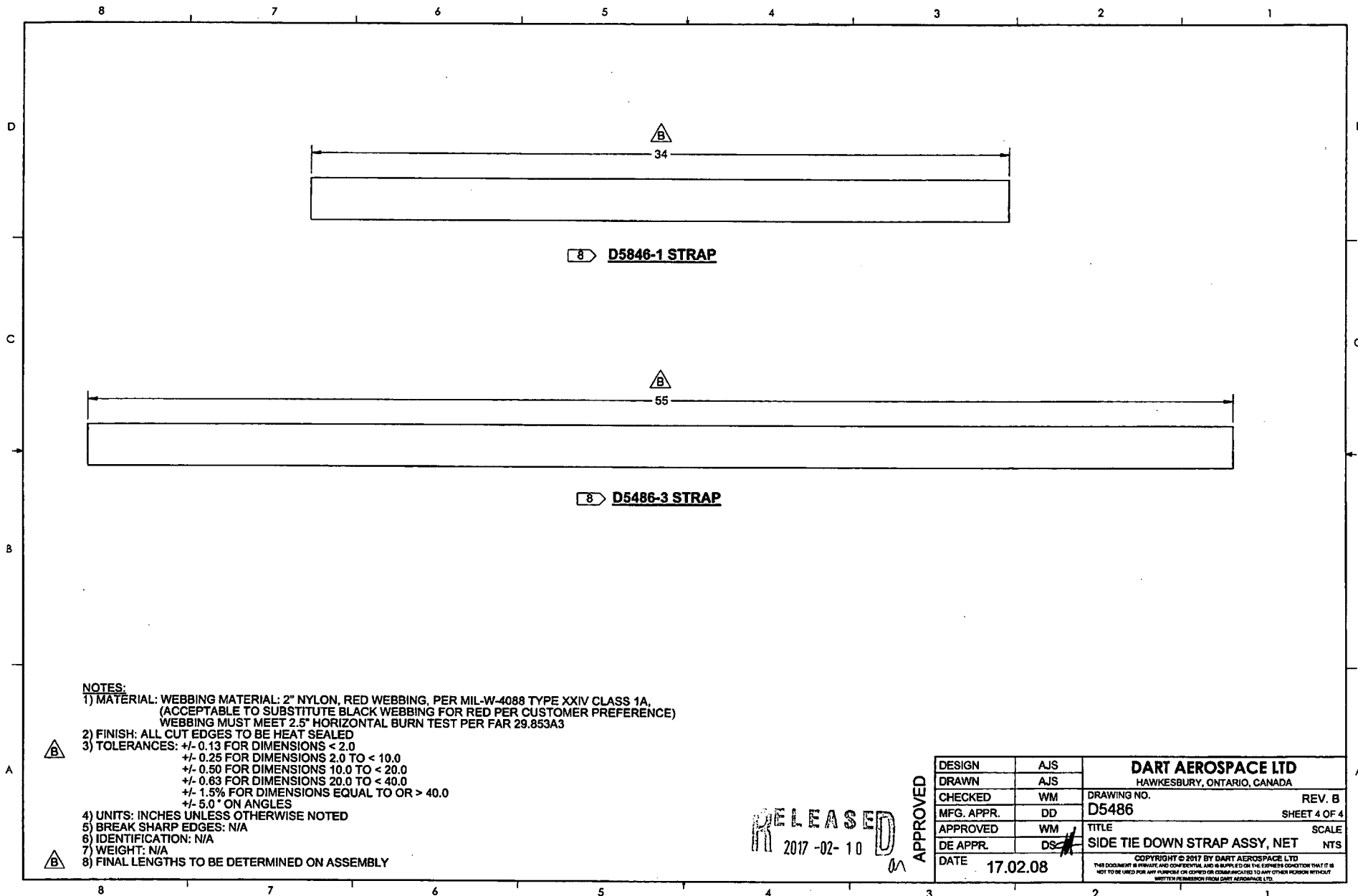


DETAIL B
(BUCKLE INSTALLATION)

RELEASED
2017-02-10

APPROVED

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	WM	DRAWING NO. D5486	REV. B
MFG. APPR.	DD	SHEET 3 OF 4	
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SIDE TIE DOWN STRAP ASSY, NET	NTS
DATE	17.02.08	COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



NOTES:

1) MATERIAL: WEBBING MATERIAL: 2" NYLON, RED WEBBING, PER MIL-W-4088 TYPE XXIV CLASS 1A,
(ACCEPTABLE TO SUBSTITUTE BLACK WEBBING FOR RED PER CUSTOMER PREFERENCE)
WEBBING MUST MEET 2.5" HORIZONTAL BURN TEST PER FAR 29.853A3

2) FINISH: ALL CUT EDGES TO BE HEAT SEALED

3) TOLERANCES: +/- 0.13 FOR DIMENSIONS < 2.0
+/- 0.25 FOR DIMENSIONS 2.0 TO < 10.0
+/- 0.50 FOR DIMENSIONS 10.0 TO < 20.0
+/- 0.63 FOR DIMENSIONS 20.0 TO < 40.0
+/- 1.5% FOR DIMENSIONS EQUAL TO OR > 40.0
+/- 5.0° ON ANGLES

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: N/A

6) IDENTIFICATION: N/A

7) WEIGHT: N/A

8) FINAL LENGTHS TO BE DETERMINED ON ASSEMBLY

RELEASED
2017-02-10

APPROVED

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	WM	DRAWING NO.	REV. B
MFG. APPR.	DD	D5486	SHEET 4 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SIDE TIE DOWN STRAP ASSY, NET	NTS
DATE	17.02.08	COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO36428

Purchase Order Date 5/24/2017
PO Print Date 5/24/2017

Page Number 1 of 7

Order From :

VC-TUL001

Ship To : DART AEROSPACE LTD

TULMAR SAFETY SYSTEMS
1123 CAMERON ST
HAWKESBURY, ON K6A 2B8
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED
MAY 25 2017

Contact Name

Vendor Phone 613 632 1282

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D139-1012-041P FABRICATE AS PER DWG D139-1012-041 REV. E B162061 TULMAR P/N: 87249-001 CARGO NET, AW 139	AW139 Cargo Net Assembly	6/15/2017 Yes 6/15/2017	FN	1.00 Each	\$2,010.00	\$2,010.00
Line Total:							\$2,010.00
2	D139-1012-041P FABRICATE AS PER DWG D139-1012-041 REV. E B162062 TULMAR P/N: 87249-001 CARGO NET, AW 139	AW139 Cargo Net Assembly	6/15/2017 Yes 6/15/2017	FN	1.00 Each	\$2,010.00	\$2,010.00
Line Total:							\$2,010.00

PO Instructions: QUOTE NO: 16865

Note:

5/24/2017

PACKING SLIP

TULMAR

Tulmar Safety Systems Inc.
1123 Cameron Street
Hawkesbury, ON K6A 2B8
Tel: 613-632-1282
Fax: 613-632-2030
GST R132478223
MID : XOTULSAF1123HAW
email: info@tulmar.com

Packing Slip No Page

60585 1

Ship Date
6/27/2017

Bill To:

Dart Aerospace
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Canada

Ship To:

Dart Aerospace
1270 Aberdeen Street
Tel: 613-632-9577
Hawkesbury, ON K6A 1K7
Canada

Order number	Sales order date	Account number	Loc	Account manager
34915	5/29/2017	CDART100	H	Francine Bigras
PO number	Ship via	Shipping Terms		
PO36428	Pick-Up			
Item No. Description	Quantity ordered	UOM	Qty Shipped/Returned	Quantity on back order
Line 12 - Procurement Quality Clauses: A004 A005 A007 A016 A026 A040 A041 A043 (TSS 5yrs only) *****				
87249-001 Cargo Net, AW 139	11.00	EA	9.00	2.00
Drawing No: D139-1012-041 DWG Rev: E **EARLY DELIVERY OF (5) ACCEPTED FOR JUNE 23RD AT THE LATEST *Waiver: Product made to the drawing, except for 1" and 2" Red webbing not certified to FAR.29.853a3 CUSTOMER PICKUP Lines 1 - 11 SF 42257 to 42262				
Lot no.: BATCH00000000007	9.00			

SP7-6-28

DAS
38
9-89

Certificate of Conformance

☒ See Certification Enclosed

I hereby certify that the items listed hereon have been inspected, and / or tested (as applicable), conform to all specifications and requirements detailed in the contract or purchase order. Objective evidence to support this statement is on file, and can be made available upon request.
If any questions or concerns, please contact QA Manager @ 613-632-1282 ext. 245.

Authorized Inspector

Lorraine LaLiberte

Date: JUN 27 2017



Bally Ribbon Mills

23 North 7th St. Bally PA 19503

p 610.845.2211 f 610.845.8013

06/02/16

Qualified Lab - List No. 1935

CERTIFICATE

Number: 237437-7596

Customer	TULMAR SAFETY SYSTEMS	Memo No.	431476
Purchase Order No.	30196-00	Shipment	
Specifications	MIL-W-4088K TYPE VIIIB CL.1	Shipped Via	FEDX PRIORITY 1
		MEETS (A) (I) (V)	
Contract No.	LOT #9C8905 DOM:04/16 UV, MOULD, FUNGUS RESISTANT	Quantity	108 YD
BALLY RIBBON MILLS	938102000BKFT	Lot Quantity	1247 YDS
Pattern No.	9381-2" BLACK FLAME RESIST. TREATED NYL.		

CERTIFICATE OF CONFORMANCE

I CERTIFY THAT THIS PATTERN CONFORMS WITH THE PHYSICAL, CHEMICAL AND VISUAL QUALITY REQUIREMENTS OF THE MILITARY SPECIFICATIONS LISTED ABOVE AND THE FAR 25.853(A) APPENDIX F, PART 1, SUBSECTION (A)(1)(II) FLAMMABILITY REQUIREMENTS PER FEDERAL STD. 191, METHOD 5903. NOTE: THIS CERT IS FOR BRM TESTING ONLY AND DOES NOT INDICATE FAA ACCEPTANCE.

Jerome Richards, Quality Assurance Manager

c/c's used to mfg.

DS366-041 Rev. 14.

Danielle Falcione (QC)

June 26/17

DAS
38

2227-002



B#1

JUN 07 2016



Bally Ribbon Mills

23 North 7th St. Bally PA 19503

p 610.845.2211 f 610.845.8013

06/02/16

LAB REPORT

Number: 237437-5117

PAGE: 1

Qualified Lab - List No. 1935

Customer TULMAR SAFETY SYSTEMS

Purchase Order No. 30196-00

Shipped Via FEDX PRIORITY 1

Specifications MIL-W-4088K TYPE VIIIB CL.1
Contract No. UV, MOULD, FUNGUS RESISTANT
DOM: 04/16 LOT: 9C8905

Memo No. 431476
Shipped Qty 108 YD

BALLY RIBBON MILLS 938102000BKFT Lot Qty 1247
Pattern No. 9381-2" BLACK FLAME RESIST. TREATED NYL.WEBBING

-----TESTS----- *-----TEST RESULTS-----* AVERAGE *---REQUIREMENT---* METHOD

FAR 25.853 (a) APPENDIX F
PART 1 SUBSECTION (a) (1) (II),
CHARLENGTH: 1 1/4" 1 3/8" 1 5/16" : 8" MAX
BURN TIME : 5.2S 8.2S 5.6S : 15 SEC MAX
FLAMEDRIPPS: 0 0 0 : 5 SEC MAX
S/E : Y Y Y : S/E
FAR 29.853, (a) (1) (V)
BURN RATE 0 0 0 4"/MIN MAX

WIDTH	2.031	2	1.968	2.015	1.984	1.9996	2" +/- 1/16"	5020
	2	2	1.968	1.984	2	1.9904		
	2.031	2.015	2	2	2.015	2.0122		

THICKNESS	.052	.052	.053	.053	.053	.0526	.040" TO .070"	5030
	.053	.052	.052	.053	.052	.0524		
	.052	.053	.053	.052	.052	.0524		

WEIGHT	1.67	1.676	1.679	1.674	1.676	1.675	1.80 OZ/YD MAXIMUM	5041
	1.676	1.674	1.678	1.674	1.67	1.6744		
	1.674	1.676	1.671	1.676	1.674	1.6742		

FACE AND BACK WARP ENDS	192	192	192	192	192	192	192 ENDS MINIMUM	5050
	192	192	192	192	192	192		
	192	192	192	192	192	192		

840 DENIER NYLON, 2 PLY, BRT HIGH TENACITY
HEAT & LIGHT RESISTANT, NYLON 6.6

GROUND YARN DENIER	840	840				840	840 DENIER	4021 1/
	840	840				840		
	840	840				840		

GROUND YARN TWIST/INCH	2.5	2.5				2.5	2 1/2 TPI MINIMUM	4054 2/
	2.5	2.5				2.5		
	2.5	2.5				2.5		

GROUND YARN PLY	2	2				2	2 PLY	VISUAL
	2	2				2		
	2	2				2		

PICKS PER INCH	18	18	18	18	18	18	18 PICKS MINIMUM	5050
	18	18	18	18	18	18		
	18	18	18	18	18	18		

840 DENIER NYLON, 2 PLY, BRT HIGH TENACITY
HEAT & LIGHT RESISTANT, NYLON 6.6

FILL YARN DENIER	840	840				840	840 DENIER	4021 1/
	840	840				840		
	840	840				840		

FILL YARN TWIST/INCH	2.5	2.5				2.5	2 1/2 TPI MINIMUM	3.3.1.2
	2.5	2.5				2.5		
	2.5	2.5				2.5		

Continued on Next Page



LAB REPORT

PAGE: 2

Bally Ribbon Mills
23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

06/02/16

Qualified Lab - List No. 1935

Customer	TULMAR SAFETY SYSTEMS		
Purchase Order No.	30196-00	Shipped Via	FEDX PRIORITY 1
Specifications	MIL-W-4088K TYPE VIIIB CL.1	Memo No.	431476
Contract No.	UV, MOULD, FUNGUS RESISTANT DOM: 04/16 LOT: 9C8905	Shipped Qty	108 YD
BALLY RIBBON MILLS	938102000BKFT	Lot Qty	1247
Pattern No.	9381-2" BLACK FLAME RESIST. TREATED NYL.WEBBING		

-----T E S T S-----	*-----T E S T R E S U L T S-----*					AVERAGE	*---REQUIREMENT---	METHOD
FILL YARN PLY	2	2				2	2 PLY	VISUAL
	2	2				2		
	2	2				2		
BREAKING STRENGTH	5464	5743	5831	5744	5569	5670.2	4500 LBS MINIMUM	4108
	5376	5763	5504	5642	5649	5586.8		
	5744	5669	5591	5718	5595	5663.4		
WEAVE	PASS						PASS OR FAIL	VISUAL
WEAVE	PASS						PASS OR FAIL	VISUAL
WEAVE	PASS						PASS OR FAIL	VISUAL
WEAVE	TWO UP, TWO DOWN HERRINGBONE TWILL W/ONE CENTER REVERSAL						PASS OR FAIL	VISUAL
COLORFASTNESS/WET CROCK	5					5	3.5 MINIMUM RATING	5651
	5					5		
	5					5		
COLORFASTNESS/DRY CROCK	5					5	3.5 MINIMUM RATING	5651
	5					5		
	5					5		
COLORFASTNESS/LIGHT (FADE)	GOOD						GOOD	5660
COLORFASTNESS/LIGHT (FADE)	GOOD						GOOD	5660
COLORFASTNESS/LIGHT (FADE)	GOOD						GOOD	5660
COLORFASTNESS/LIGHT (FADE)	XENON						GOOD	5660
COLORFASTNESS/LAUNDERING	FAIR						FAIR	5614 2/
COLORFASTNESS/LAUNDERING	FAIR						FAIR	5614 2/
COLORFASTNESS/LAUNDERING	FAIR						FAIR	5614 2/
CURVATURE	.156	.187	.187	.125	.218	.1746	.25" MAXIMUM	4.5.1
	.218	.0937	.218	.0937	.156	.1559		
	.156	.0937	.125	.125	.0937	.1187		
PH	6.49	6.49				6.49	5.0 TO 8.5	2811
	6.14	6.14				6.14		
	6.38	6.38				6.38		
NYLON YARN	PASS						PASS OR FAIL	3.3.1
NYLON YARN	PASS						PASS OR FAIL	3.3.1
NYLON YARN	PASS						PASS OR FAIL	3.3.1
NON BLEACHING	NONE						NONE	3.3.1
NON BLEACHING	NONE						NONE	3.3.1
NON BLEACHING	NONE						NONE	3.3.1
NYLON MELTING POINT	484	482				483		1534
	482	484				483		
	484	482				483		



LAB REPORT

PAGE: 3

Number: 237437-5117

Bally Ribbon Mills

23 North 7th St. Bally PA 19503

p 610.845.2211 f 610.845.8013

06/02/16

Qualified Lab - List No. 1935

Customer TULMAR SAFETY SYSTEMS

Purchase Order No. 30196-00

Shipped Via FEDX PRIORITY 1

Specifications MIL-W-4088K TYPE VIIIB CL.1
Contract No. UV, MOULD, FUNGUS RESISTANT
DOM: 04/16 LOT: 9C8905

Memo No. 431476
Shipped Qty 108 YD

BALLY RIBBON MILLS 938102000BKFT
Pattern No. 9381-2" BLACK FLAME RESIST. TREATED NYL.WEBBING

Lot Qty 1247

-----TESTS----- *-----TEST RESULTS-----* AVERAGE *---REQUIREMENT---* METHOD

I certify that the above tests were performed under my supervision in accordance with the specification test requirements and that the reported test results are true, valid and applicable to the samples tested.

JUN 07 2016



2227-002

3#1

Jerome Richards

Jerome Richards, Quality Assurance Manager



Bally Ribbon Mills
23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

07/01/16

2262-002 B #3

CERTIFICATE

Number: 239131-8310

Qualified Lab - List No. 1935

Customer	TULMAR SAFETY SYSTEMS	Memo No.	432493
Purchase Order No.	30299-00	Shipment	
Specifications	MIL-W-4088K TYPE XVII CLASS 1A P/N 2262-002	Shipped Via	FED X ECONOMY
Contract No.	LOT # 9C9713 DOM:06/16	Quantity	75 YD
BALLY RIBBON MILLS	402801000RD31350	Lot Quantity	193 YDS
Pattern No.	4028-1" RED #31350 NYLON WEBBING		

CERTIFICATE OF CONFORMANCE

I certify that this pattern conforms with the physical, chemical, and visual quality of the Military Specifications listed above.

Jerome Richards, Quality Assurance Manager

TSS 2262-002 B/3 (PP)



LAB REPORT

PAGE: 1

Number: 239131-6101

Bally Ribbon Mills
23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

07/01/16

Qualified Lab - List No. 1935

Customer TULMAR SAFETY SYSTEMS

Purchase Order No. 30299-00

Shipped Via FED X ECONOMY

Specifications MIL-W-4088K TYPE XVII CLASS 1A
P/N 2262-002

Memo No. 432493

Contract No. DOM: 06/16 LOT: 9C9713

Shipped Qty 75 YD

BALLY RIBBON MILLS 402801000RD31350
Pattern No. 4028-1" RED #31350 NYLON WEBBING

Lot Qty 193

-----TESTS-----	*-----TEST RESULTS-----*					AVERAGE	*---REQUIREMENT---	METHOD
WIDTH	1.031	1	1.031	1	1	1.0124	1" +/- 1/16"	5020
	1.031	1.031	1.031	1.031	1.031	1.031		
THICKNESS	.056	.056	.056	.056	.056	.056	.045" TO .070"	5030
	.056	.056	.056	.056	.056	.056		
WEIGHT	.942	.942	.942	.943	.943	.9424	1.15 OZ/YD MAXIMUM	5041
	.937	.941	.941	.941	.941	.9402		
FACE AND BACK WARP ENDS	114	114	114	114	114	114	114 ENDS MINIMUM	5050
	114	114	114	114	114	114		
840 DENIER NYLON, 2 PLY, BRT HIGH TENACITY HEAT & LIGHT RESISTANT, NYLON 6.6								
GROUND YARN DENIER	840	840				840	840 DENIER	4021 1/
	840	840				840		
GROUND YARN TWIST/INCH	2.5	2.5				2.5	2 1/2 TPI MINIMUM	4054 2/
	2.5	2.5				2.5		
GROUND YARN PLY	2	2				2	2 PLY	VISUAL
	2	2				2		
PICKS PER INCH	30	30	30	30	30	30	30 PICKS MINIMUM	5050
	30	30	30	30	30	30		
840 DENIER NYLON, 1 PLY, BRT HIGH TENACITY HEAT & LIGHT RESISTANT, NYLON 6.6 CATCHCORD - 70 DENIER BLACK POLYESTER								
FILL YARN DENIER	840	840				840	840 DENIER	4021 1/
	840	840				840		
FILL YARN PLY	1	1				1	1 PLY	VISUAL
	1	1				1		
BREAKING STRENGTH	3556	3544	3553	3558	3571	3556.4	2500 LBS MINIMUM	4108
	3557	3533	3560	3533	3556	3547.8		
WEAVE	PASS						PASS OR FAIL	VISUAL
WEAVE	PASS						PASS OR FAIL	VISUAL
WEAVE	TWO UP, TWO DOWN HERRINGBONE TWILL W/ONE CENTER REVERSAL						PASS OR FAIL	VISUAL
COLORFASTNESS/WET CROCK	5					5	3.5 MINIMUM RATING	5651
	5					5		
COLORFASTNESS/DRY CROCK	4.5					4.5	3.5 MINIMUM RATING	5651
	4.5					4.5		
COLORFASTNESS/LIGHT (FADE)	GOOD						GOOD	5660
COLORFASTNESS/LIGHT (FADE)	GOOD						GOOD	5660
COLORFASTNESS/LIGHT (FADE)	XENON						GOOD	5660

Continued on Next Page



LAB REPORT

PAGE: 2

Number: 239131-6101

Bally Ribbon Mills
-23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

07/01/16

Qualified Lab - List No. 1935

Customer TULMAR SAFETY SYSTEMS
Purchase Order No. 30299-00
Specifications MIL-W-4088K TYPE XVII CLASS 1A
P/N 2262-002
Contract No. DOM: 06/16 LOT: 9C9713
BALLY RIBBON MILLS 402801000RD31350
Pattern No. 4028-1" RED #31350 NYLON WEBBING

Shipped Via FED X ECONOMY

Memo No. 432493

Shipped Qty 75 YD

Lot Qty 193

-----TESTS-----	*-----TEST RESULTS-----*	AVERAGE	*---REQUIREMENT---	METHOD
COLORFASTNESS/LAUNDERING FAIR		FAIR	5614 2/	
COLORFASTNESS/LAUNDERING FAIR		FAIR	5614 2/	
COLORFAST/LIGHT CATCHCORD GOOD		GOOD	5660	
COLORFAST/LIGHT CATCHCORD GOOD		GOOD	5660	
COLORFAST/LIGHT CATCHCORD XENON		GOOD	5660	
COLORFAST/LAUND CATCHCORD GOOD		FAIR	5614	
COLORFAST/LAUND CATCHCORD GOOD		FAIR	5614	
CURVATURE	.062 .062 .062 .125 .125 .0872 .25" MAXIMUM	.125 .156 .1184	4.5.1	
PH	5.27 5.27 5.55 5.55	5.27 5.55	5.0 TO 8.5	2811
NYLON YARN PASS		PASS OR FAIL	3.3.1	
NYLON YARN PASS		PASS OR FAIL	3.3.1	
NON BLEACHING NONE		NONE	3.4.3 1/	
NON BLEACHING NONE		NONE	3.4.3 1/	
NYLON MELTING POINT	482 482	482 482	1534	

I certify that the above tests were performed under my supervision in accordance with the specification test requirements and that the reported test results are true, valid and applicable to the samples tested.


Jerome Richards, Quality Assurance Manager



CERTIFICATE

Number: 216876-2519

Bally Ribbon Mills
23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

01/04/17

Qualified Lab - List No. 1935

Customer	TULMAR SAFETY SYSTEMS	Memo No.	438313
Purchase Order No.	30791-00	Shipment	
Specifications	MIL-W-4088K CLASS 1 TYPE XVII COLOR CHIP #37030 P/N TSS2262B	Shipped Via	FED X ECONOMY
Contract No.	LOT #9C2331 DOM:09/14 UV, MOULD, FUNGUS RESISTANT	Quantity	429 YD
BALLY RIBBON MILLS	894101000BK	Lot Quantity	11984 YDS
Pattern No.	8941-1" BLACK NYLON WEBBING		

CERTIFICATE OF CONFORMANCE

I CERTIFY THAT THIS PATTERN CONFORMS WITH THE PHYSICAL, CHEMICAL AND VISUAL QUALITY REQUIREMENTS OF THE MILITARY SPECIFICATIONS LISTED ABOVE AND THE FAR 25.853(A), APPENDIX F, PART 1, SUBSECTION (A) (1) (IV).

NOTE: THIS CERT IS FOR BRM TESTING ONLY AND DOES NOT INDICATE FAA ACCEPTANCE.

Jerome Richards, Quality Assurance Manager

2262-B
B#22

JAN 06 2017





LAB REPORT

PAGE: 1

Bally Ribbon Mills
23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

01/04/17

Qualified Lab - List No. 1935

Customer TULMAR SAFETY SYSTEMS
Purchase Order No. 30791-00
Specifications MIL-W-4088K CLASS 1 TYPE XVII
COLOR CHIP #37030 P/N TSS2262B
Contract No. UV, MOULD, FUNGUS RESISTANT
DOM: 09/14 LOT: 9C2331
BALLY RIBBON MILLS 894101000BK
Pattern No. 8941-1" BLACK NYLON WEBBING

Shipped Via FED X ECONOMY

Memo No. 438313

Shipped Qty 429 YD

Lot Qty 11984

-----TESTS----- *-----TEST RESULTS-----*

AVERAGE *---REQUIREMENT---* METHOD

Far. 25.853(a) Appendix F,
Part 1, Subsection (a)(1)(IV)
Burn Rate-0 0 0 2 1/2" / 1 min max

WIDTH	1.015	.968	1	1	1.015	.9996	1" +/- 1/16"	5020
	1	1	1.031	1.031	1.031	1.0186		
	1.031	1.015	1.031	1.031	1	1.0216		
THICKNESS	.056	.056	.058	.057	.056	.0566	.045" TO .070"	5030
	.057	.056	.056	.057	.057	.0566		
	.057	.057	.057	.057	.057	.057		
WEIGHT	.927	.9269	.923	.926	.92	.9246	1.15 OZ/YD MAXIMUM	5041
	.924	.921	.915	.921	.926	.9214		
	.924	.921	.915	.921	.926	.9214		
FACE AND BACK WARP ENDS	114	114	114	114	114	114	114 ENDS MINIMUM	5050
	114	114	114	114	114	114		
	114	114	114	114	114	114		
840 DENIER NYLON, 2 PLY, BRT HIGH TENACITY HEAT & LIGHT RESISTANT, NYLON 6.6								
GROUND YARN DENIER	840	840				840	840 DENIER	4021 1/
	840	840				840		
	840	840				840		
GROUND YARN TWIST/INCH	3	3				3	2 1/2 TPI MINIMUM	4054 2/
	3	3				3		
	3	3				3		
GROUND YARN PLY	2	2				2	2 PLY	VISUAL
	2	2				2		
	2	2				2		
PICKS PER INCH	16	16	16	16	16	16	15 PICKS MINIMUM	5050
	16	16	16	16	16	16		
	16	16	16	16	16	16		
840 DENIER NYLON, 2 PLY, BRT HIGH TENACITY HEAT & LIGHT RESISTANT, NYLON 6.6								
FILL YARN DENIER	840	840				840	840 DENIER	4021 1/
	840	840				840		
	840	840				840		
FILL YARN PLY	2	2				2	2 PLY	VISUAL
	2	2				2		
	2	2				2		
BREAKING STRENGTH	2954	3525	3728	3802	3199	3441.6	2500 LBS MINIMUM	4108
	3808	3684	3701	3516	3871	3716		
	3770	3239	3524	3822	3408	3552.6		

Continued on Next Page



LAB REPORT

PAGE: 2

Bally Ribbon Mills

Number: 216876-1984

23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

01/04/17

Qualified Lab - List No. 1935

Customer TULMAR SAFETY SYSTEMS

Purchase Order No. 30791-00

Shipped Via FED X ECONOMY

Specifications MIL-W-4088K CLASS 1 TYPE XVII
COLOR CHIP #37030 P/N TSS2262B
Contract No. UV, MOULD, FUNGUS RESISTANT
DOM: 09/14 LOT: 9C2331

Memo No. 438313

Shipped Qty 429 YD

BALLY RIBBON MILLS 894101000BK
Pattern No. 8941-1" BLACK NYLON WEBBING

Lot Qty 11984

-----TESTS----- *-----TEST RESULTS-----* AVERAGE *---REQUIREMENT---* METHOD

WEAVE	PASS						PASS OR FAIL	VISUAL
WEAVE	PASS						PASS OR FAIL	VISUAL
WEAVE	PASS						PASS OR FAIL	VISUAL
WEAVE	TWO UP, TWO DOWN HERRINGBONE TWILL						PASS OR FAIL	VISUAL
	W/ONE CENTER REVERSAL							
COLORFASTNESS/WET CROCK	3.5					3.5	3.5 MINIMUM RATING	5651
	3.5					3.5		
	3.5					3.5		
COLORFASTNESS/DRY CROCK	3.5					3.5	3.5 MINIMUM RATING	5651
	3.5					3.5		
	3.5					3.5		
COLORFASTNESS/LIGHT(FADE) GOOD							GOOD	5660
COLORFASTNESS/LIGHT(FADE) GOOD							GOOD	5660
COLORFASTNESS/LIGHT(FADE) GOOD							GOOD	5660
COLORFASTNESS/LAUNDERING GOOD							FAIR	5614 2/
COLORFASTNESS/LAUNDERING GOOD							FAIR	5614 2/
COLORFASTNESS/LAUNDERING GOOD							FAIR	5614 2/
CURVATURE	.109	.093	.046	.093	.031	.0744	.25" MAXIMUM	4.5.1
	.031	.093	.125	.046	.156	.0902		
	.031	.109	.156	.14	.14	.1152		
PH	7.4	7.4				7.4	5.0 TO 8.5	2811
	7.5	7.5				7.5		
	7.6	7.6				7.6		
NYLON YARN	PASS						PASS OR FAIL	3.3.1
NYLON YARN	PASS						PASS OR FAIL	3.3.1
NYLON YARN	PASS						PASS OR FAIL	3.3.1
NON BLEACHING	NONE						NONE	3.3.1
NON BLEACHING	NONE						NONE	3.3.1
NON BLEACHING	NONE						NONE	3.3.1
NYLON MELTING POINT	494	494				494		1534
	494	494				494		
	494	494				494		

I certify that the above tests were performed under my supervision in accordance with the specification test requirements and that the reported test results are true, valid and applicable to the samples tested

2262-B

JAN 06 2017

B#22



Jerome Richards, Quality Assurance Manager



Bally Ribbon Mills

23 North 7th St. Bally PA 19503

p 610.845.2211 f 610.845.8013

03/13/17

CERTIFICATE

Number: 228822-4316

Qualified Lab - List No. 1935

Customer	TULMAR SAFETY SYSTEMS	Memo No.	440656
Purchase Order No.	31188-00	Shipment	
		Shipped Via	FEDEX ECONOMY
Specifications	MIL-W-4088K CLASS 1 TYPE XVII COLOR CHIP #37030 P/N TSS2262B		
Contract No.	LOT # 9C5759 DOM:08/15 UV, MOULD, FUNGUS RESISTANT	Quantity	200 YD
BALLY RIBBON MILLS	894101000BK	Lot Quantity	1480 YDS
Pattern No.	8941-1" BLACK NYLON WEBBING		

CERTIFICATE OF CONFORMANCE

I certify that this pattern conforms with the physical, chemical, and visual quality of the Military Specifications listed above.

Jerome Richards, Quality Assurance Manager

MAR 21 2017

2262-B
B# 23





March 23, 2017

TULMAR SAFETY SYSTEMS
1123 CAMERON STREET
HAWKSBURY, ONTARIO
K6A 2B8

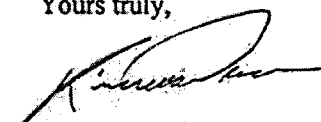
CERTIFICATE OF COMPLIANCE

This is to certify that the item mentioned below, shipped to Tulmar Safety Systems by Cansew Inc. has been produced in accordance with the requirements of Purchase Order no. 31228-00 :

- **NB CB138 LB;** Nylon Thread – Qty 6.98 lb, Colour: Black
 LOT #: F81582
- Thread, Black - A-A-59826, TY2, CLA, Size FF

Hazardous Materials Acknowledgement	The items described below may contain, and their processing may have include, the following substances:	Hexavalent Chromium; Cadmium; Beryllium; Nickel; Mercury; Lead; Asbestos; Radioactive elements YES NO •
Country of Origin of Goods: USA		
Limited Shelf-Life	<u>Definition:</u> If material is consumed or transformed into final product before end of shelf-life there is no effect on final product.	These items have limited Shelf-Life YES NO •
Expiry date	<u>Definition:</u> Date after which performance will no longer be as intended – expiration is transferred to the final product.	These items have expiry date YES NO •

Yours truly,


Richard Doré
Sales Manager

MONTREAL 111 Chabanel W. H2N 1C9 Tel: (514) 382-2801 1-800-361-7722 Fax: (514) 385-5530 E-mail: info@cansew.ca www.cansew.ca	TORONTO 28 Apex Rd. M6A 2V2 (416) 782-1122 1-800-387-8584 (416) 782-8358 info@cansew.ca	WINNIPEG 1674 Church Ave. R2X 2W9 (204) 942-4264 1-800-665-0701 (204) 947-9280 info@cansew.ca	CALGARY 3932-29th St. N.E. T1Y 6B6 (403) 291-4494 1-800-667-4197 (403) 291-5139 info@cansew.ca	VANCOUVER 1217 East Georgia St. V6A 2A9 (604) 682-4341 1-800-580-0737 (604) 682-4196 info@cansew.ca
--	---	---	--	---

MAR 23 2017



2547
B#7

Main Tel: 516-239-4900
Toll Free: 1-800-989-APEX
Fax: 516-239-4951
www.apexmills.com

December 16, 2016

Tulmar Safety Systems
1123 Cameron Street
Hawkesbury, ON K6A 2B8
CANADA

APEX
MILLS

Problem Shared.
Problem Solved.™

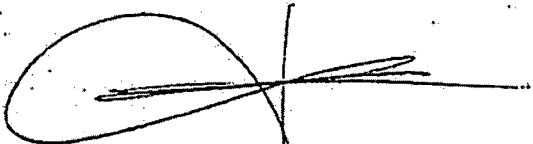
168 Doughty Blvd.
Inwood, NY 11096
USA

Certificate of Conformance

Part Number	1753-001
Style	TP21J
Color	Black
PO#	30849-00
Yardage	134 yds.
Lot Number	F25402

This is to certify that the material listed above was tested and passed FAR25.853.

Respectfully,



Simon Krawczyk
Chief Operating Officer

SK: db

1753-001
B#2

JAN 03 2017



TULMAR**Certificate of Conformance**

Tulmar P/N 22019-001	Description BLANK 2360NWT, IMPRINTED ONE-SIDE, 1-3/8" WEB	Dwg #	Revision	Qty 1
Tulmar PO # 30405-00	Line Item # 25KAMSAFE	Supplier Name / Address Juarez, Mexico, Avery Dennison Retail Information Services LLC, Avery De Mexico S De RL DE CV, 5 Founders Blvd, Suite 200, El Paso, Tx 79906 United States		Supplier Packing Slip # AVY-12733506

Supplier Declarations:

Hazardous Materials Acknowledgement	The items described below may contain, and their processing may have included, the following substances:	Hexavalent Chromium; Cadmium; Beryllium; Nickel; Mercury; Lead; Asbestos; Radioactive elements YES ☐ NO ☒
Country of Origin of Goods : USA		if YES, please complete the HazMat Acknowledgement form @ www.tulmar.com
Limited Shelf-Life	<u>Definition:</u> If material is consumed or transformed into final product before end of shelf-life there is no effect on final product.	These items have a limited Shelf-Life YES ☐ NO ☒
Expiry date	<u>Definition:</u> Date after which performance will no longer be as intended - expiration is transferred to the final product.	These items have an expiry date YES ☐ NO ☒

if YES, please complete the Time Expired - Shelf-Life questionnaire @ www.tulmar.com

Additional Information (MRS#, MRA#, limitations, etc...):

I hereby certify that the goods listed hereon have been inspected and/or tested, as applicable, and conform to all specifications and requirements detailed in the contract or purchase order and relevant quality clauses. Objective evidence to support this statement is on file and can be made available upon request. Should further information be required, please contact:

Signature 	Name Andres De Anda	Date (DD-MM-YYYY) 06-10-2016
Title Quality Engineer	Email andres.deanda@averydennison.com	Phone # +(52) 656 3229012

OCT 07 2016**22019-001 B#9**

Form Revision 13 Aug 2012



Bally Ribbon Mills
23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

02/07/17

CERTIFICATE

Number: 239030-3368

Qualified Lab - List No. 1935

Customer	TULMAR SAFETY SYSTEMS	Memo No.	439436
Purchase Order No.	31055-00	Shipment	
Specifications	MIL-W-4088K TYPE XXIV CLASS 1a	Shipped Via	FED. EXPRESS #1
Contract No.	LOT #9C9450 DOM:06/16 UV, MOULD, FUNGUS RESISTANT	Quantity	323 YD
BALLY RIBBON MILLS	403501937RD	Lot Quantity	2824 YDS
Pattern No.	4035-1 15/16" RED NYLON WEBBING		

CERTIFICATE OF CONFORMANCE

I CERTIFY THAT THIS PATTERN CONFORMS WITH THE PHYSICAL, CHEMICAL AND VISUAL QUALITY REQUIREMENTS OF THE MILITARY SPECIFICATIONS LISTED ABOVE AND THE FAR 25.853(A) APPENDIX F, PART 1, SUBSECTION (A) (1) (II) FLAMMABILITY REQUIREMENTS PER FEDERAL STD. 191, METHOD 5903. NOTE: THIS CERT IS FOR BRM TESTING ONLY AND DOES NOT INDICATE FAA ACCEPTANCE.

Jerome Richards, Quality Assurance Manager

FEB 14 2017



cle's used to mfg. D5485-041
D5485-043
D5486-041
D5486-043

Rev. B

2282-001

B#1

Lanaire Laliberte June 26/17
(cc)



Bally Ribbon Mills

23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

02/07/17

LAB REPORT

Number: 239030-3072

PAGE: 1

Qualified Lab - List No. 1935

Customer TULMAR SAFETY SYSTEMS
Purchase Order No. 31055-00
Specifications MIL-W-4088K TYPE XXIV CLASS 1a
Contract No. UV, MOULD, FUNGUS RESISTANT
DOM: 06/16 LOT: 9C9450
BALLY RIBBON MILLS 403501937RD
Pattern No. 4035-1 15/16" RED NYLON WEBBING

Shipped Via FED. EXPRESS #1

Memo No. 439436
Shipped Qty 323 YD

Lot Qty 2824

-----TESTS----- *-----TEST RESULTS-----* AVERAGE *---REQUIREMENT---* METHOD

FAR 25.853(a) APPENDIX F
PART 1. SUBSECTION (a) (1) (IV)
BURN RATE 0 0 0 2.5" / 1 MIN MAX
PART 1 SUBSECTION (a) (1) (II),
CHARLENGTH: 1/2" 1/2" 1/2" : 8" MAX
BURN TIME: 6.9S 7.0S 6.9S : 15 SEC MAX
FLAMEDRIPPS: 0 0 0 : 5 SEC MAX
S/E : Y Y Y : S/E

WIDTH	1.937	1.968	1.937	1.937	1.968	1.9494	1 15/16" +/-3/32"	5020
	1.937	1.937	1.968	1.937	1.968	1.9494		
	1.937	1.937	1.968	1.937	1.937	1.9432		
THICKNESS	.07	.0685	.0695	.069	.069	.0692	.055" TO .075"	5030
	.07	.0685	.069	.07	.0695	.0694		
	.0685	.07	.069	.069	.069	.0691		
WEIGHT	2.214	2.203	2.211	2.205	2.208	2.2082	2.25 OZ/YD MAXIMUM	5041
	2.223	2.218	2.226	2.22	2.221	2.2216		
	2.204	2.206	2.224	2.204	2.206	2.2088		
FACE AND BACK WARP ENDS	244	244	244	244	244	244	244 ENDS MINIMUM	5050
	244	244	244	244	244	244		
	244	244	244	244	244	244		
840 DENIER NYLON, 2 PLY, BRT HIGH TENACITY HEAT & LIGHT RESISTANT, NYLON 6.6								
GROUND YARN DENIER	840	840				840	840 DENIER	4021 1/
	840	840				840		
	840	840				840		
GROUND YARN TWIST/INCH	2.5	2.5				2.5	2 1/2 TPI MINIMUM	4054 2/
	2.5	2.5				2.5		
	2.5	2.5				2.5		
GROUND YARN PLY	2	2				2	2 PLY	VISUAL
	2	2				2		
	2	2				2		
PICKS PER INCH	35	35	35	35	35	35	34 PICKS MINIMUM	5050
	35	35	35	35	35	35		
	35	35	35	35	35	35		
420 DENIER NYLON, 3 PLY, BRT HIGH TENACITY HEAT & LIGHT RESISTANT, NYLON 6.6 CATCHCORD - 70 DENIER BLACK POLYESTER								
FILL YARN DENIER	420	420				420	420 DENIER	4021 1/
	420	420				420		
	420	420				420		
FILL YARN PLY	3	3				3	3 PLY	VISUAL
	3	3				3		
	3	3				3		

Continued on Next Page



Bally Ribbon Mills
23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

02/07/17

LAB REPORT

Number: 239030-3072

PAGE: 2

Qualified Lab - List No. 1935

Customer TULMAR SAFETY SYSTEMS
Purchase Order No. 31055-00
Specifications MIL-W-4088K TYPE XXIV CLASS 1a
Contract No. UV, MOULD, FUNGUS RESISTANT
DOM: 06/16 LOT: 9C9450
BALLY RIBBON MILLS 403501937RD
Pattern No. 4035-1 15/16" RED NYLON WEBBING

Shipped Via FED. EXPRESS #1

Memo No. 439436
Shipped Qty 323 YD

Lot Qty 2824

-----T E S T S-----	*-----T E S T R E S U L T S-----*						AVERAGE	*---REQUIREMENT---	METHOD
BREAKING STRENGTH	7391	7407	7389	7442	7410	7407.8	5500 LBS MINIMUM	4108	
	7350	7421	7435	7425	7364	7399			
	7403	7233	7442	7365	7427	7374			
WEAVE	PASS						PASS OR FAIL	VISUAL	
WEAVE	PASS						PASS OR FAIL	VISUAL	
WEAVE	PASS						PASS OR FAIL	VISUAL	
WEAVE	TWO UP, TWO DOWN HERRINGBONE TWILL						PASS OR FAIL	VISUAL	
	W/THREE REVERSALS								
COLORFASTNESS/WET CROCK	4					4	3.5 MINIMUM RATING	5651	
	4					4			
	4					4			
COLORFASTNESS/DRY CROCK	4					4	3.5 MINIMUM RATING	5651	
	4					4			
	4					4			
COLORFASTNESS/LIGHT(FADE) GOOD							GOOD	5660	
COLORFASTNESS/LIGHT(FADE) GOOD							GOOD	5660	
COLORFASTNESS/LIGHT(FADE) GOOD							GOOD	5660	
COLORFASTNESS/LIGHT(FADE) XENON							GOOD	5660	
COLORFASTNESS/LAUNDERING FAIR							FAIR	5614 2/	
COLORFASTNESS/LAUNDERING FAIR							FAIR	5614 2/	
COLORFASTNESS/LAUNDERING FAIR							FAIR	5614 2/	
COLORFAST/LIGHT CATCHCORD GOOD							GOOD	5660	
COLORFAST/LIGHT CATCHCORD GOOD							GOOD	5660	
COLORFAST/LIGHT CATCHCORD GOOD							GOOD	5660	
COLORFAST/LIGHT CATCHCORD XENON							GOOD	5660	
COLORFAST/LAUND CATCHCORD FAIR							FAIR	5614	
COLORFAST/LAUND CATCHCORD FAIR							FAIR	5614	
COLORFAST/LAUND CATCHCORD FAIR							FAIR	5614	
CURVATURE	.0937	.0625	.0625	.0937	.0625	.075	.25" MAXIMUM	4.5.1	
	.125	.0937	.0937	.125	.1562	.1187			
	.0625	.0937	.125	.1875	.0625	.1062			
PH	7.21	7.21				7.21	5.0 TO 8.5	2811	
	7.72	7.72				7.72			
	7.39	7.39				7.39			
NYLON YARN	PASS						PASS OR FAIL	3.3.1	
NYLON YARN	PASS						PASS OR FAIL	3.3.1	
NYLON YARN	PASS						PASS OR FAIL	3.3.1	
NON BLEACHING	NONE						NONE	3.3.1	
NON BLEACHING	NONE						NONE	3.3.1	
NON BLEACHING	NONE						NONE	3.3.1	

Continued on Next Page



LAB REPORT

PAGE: 3

Number: 239030-3072

Bally Ribbon Mills
23 North 7th St. Bally PA 19503
p 610.845.2211 f 610.845.8013

02/07/17

Qualified Lab - List No. 1935

Customer TULMAR SAFETY SYSTEMS
Purchase Order No. 31055-00
Specifications MIL-W-4088K TYPE XXIV CLASS 1a
Contract No. UV, MOULD, FUNGUS RESISTANT
DOM: 06/16 LOT: 9C9450
BALLY RIBBON MILLS 403501937RD
Pattern No. 4035-1 15/16" RED NYLON WEBBING

Shipped Via FED. EXPRESS #1

Memo No. 439436
Shipped Qty 323 YD

Lot Qty 2824

.....T E S T S.....	*.....T E S T R E S U L T S.....*		AVERAGE	*....REQUIREMENT....*	METHOD
NYLON MELTING POINT	494	494	494	1534	
	494	494	494		
	494	494	494		



FEB 14 2017

I certify that the above tests were performed under my supervision in accordance with the specification test requirements and that the reported test results are true, valid and applicable to the samples tested.

2282-001
B #1

Jerome Richards
Jerome Richards, Quality Assurance Manager

June 7, 2016

TULMAR SAFETY SYSTEMS
 1123 CAMERON STREET
 HAWKSBURY, ONTARIO
 K6A 2B8

CERTIFICATE OF COMPLIANCE

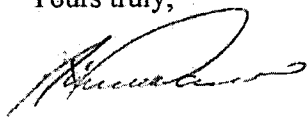
This is to certify that the item mentioned below, shipped to Tulmar Safety Systems by Cansew Inc. on June 7, 2016, has been produced in accordance with the requirements of Purchase Order no. 30203-00 of the same date:

- **NB CBB92 LB;** Cansew Nylon – Qty 44.26 lbs, Colour: Black
 LOT #: F78826

Description
 Thread, Nylon, Twisted, Black, A-A-59826, TY2, CLA, Size F, CBB92, (Supercedes V-T-295)

Hazardous Materials Acknowledgement	The items described below may contain, and their processing may have include, the following substances:	Hexavalent Chromium: Cadmium: Beryllium; Nickel; Mercury; Lead; Asbesotos; Radioactive elements YES NO ●
Country of Origin of Goods: USA		
Limited Shelf-Life	<u>Definition:</u> If material is consumed or transformed into final product before end of shlf-life there is no effect on final product.	These items have limited Shelf-Life YES NO ●
Expiry date	<u>Definition:</u> Date after which performance will no longer be as intended – expiration is transferred to the final product.	These items have expiry date YES NO ●

Yours truly,



Richard Doré
 Sales Manager



JUN 08 2016

2530 B#56

MONTREAL 111 Chabanel W. H2N 1C9 Tel. (514) 382-2801 1-800-361-7722 Fax: (514) 385-5530 E-mail: info@cansew.ca www.cansew.ca	TORONTO 28 Apex Rd. M6A 2V2 (416)782-1122 1-800-387-8584 (416)782-8358 info@cansew.ca	WINNIPEG 1674 Church Ave. R2X 2W9 (204)942-4264 1-800-665-0701 (204)947-9280 info@cansew.ca	CALGARY 3932-29th St. N.E. T1Y 6B6 (403)291-4494 1-800-667-4197 (403)291-5139 info@cansew.ca	VANCOUVER 1217 East Georgia St. V6A 2A9 (604)682-4341 1-800-580-0737 (604)682-4196 info@cansew.ca
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TULMAR

Certificate of Conformance

Tulmar P/N	Description	Dwg #	Revision	Qty
22019-001	BLANK 2360NWT. IMPRINTED ONE-SIDE, 1-3/8" WEB			1
Tulmar PO #	Line Item #	Supplier Name / Address	Supplier Packing Slip #	
30405-00	25KAMSAFE	Juarez, Mexico, Avery Dennison Retail Information Services LLC, Avery De Mexico S De RL DE CV, 5 Founders Blvd, Suite 200, El Paso, Tx 79906 United States	AVY-12733506	

Supplier Declarations:

Hazardous Materials Acknowledgement	The items described below may contain, and their processing may have included, the following substances:	Hexavalent Chromium; Cadmium; Beryllium; Nickel; Mercury; Lead; Asbestos; Radioactive elements YES ☐ NO ☒
Country of Origin of Goods : USA		if YES, please complete the HazMat Acknowledgement form @ www.tulmar.com
Limited Shelf-Life	<u>Definition:</u> If material is consumed or transformed into final product before end of shelf-life there is no effect on final product.	These items have a limited Shelf-Life YES ☐ NO ☒
Expiry date	<u>Definition:</u> Date after which performance will no longer be as intended - expiration is transferred to the final product.	These items have an expiry date YES ☐ NO ☒

if YES, please complete the Time Expired - Shelf-Life questionnaire @ www.tulmar.com

Additional Information (MRS#, MRA#, limitations, etc...):

I hereby certify that the goods listed hereon have been inspected and/or tested, as applicable, and conform to all specifications and requirements detailed in the contract or purchase order and relevant quality clauses. Objective evidence to support this statement is on file and can be made available upon request. Should further information be required, please contact:

Signature	Name	Date (DD-MMM-YYYY)
	Andres De Anda	06-10-2016
Title	Email	Phone #
Quality Engineer	andres.deanda@averydennison.com	+(52) 656 3229012

OCT 07 2016

22019-001 B#9

Form Revision 13 Aug 2012



cansew inc.

formerly / anciennement
Canadian Sewing Supply Ltd. / Ltée — established / établie 1924

Manufacturers of sewing threads. / Wholesalers of elastics, Velcro, tapes, trimmings.
Fabricants de fils à coudre. / Grossistes d'élastiques, Velcro, galons, garnitures.

20 October 2008

Tulmar Safety Systems
1123 Cameron Street
Hawksbury, Ontario
K6A 2B8

Att. Sandra Nadeau

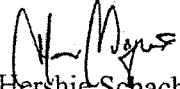
CERTIFICATE OF COMPLIANCE

This is to certify that the items mentioned below, shipped to Tulmar Safety Systems by CANSEW INC. on 20 October 2008, have been produced in accordance with the requirements of Purchase Order no. 14929-00 of the same date:

-Bonded Nylon CBB92 – 35.18 lb, colour OG-107, lot # 748348, meeting the requirements of specification V-T-295, Type 2, Class A, Size F

*-Bonded Nylon CB207 – 19.96 lb, colour black, lot # 656160, meeting the requirements of specification V-T-295, Type 2, Class A, Size 3, 3 ply

Yours truly,


Hershie Schachter
CANSEW INC.

MONTREAL - Head Office/Siège social
111 Chabanel W / O. H2N 1C9
Administration (514) 382-2807
Commandes/Orders (514) 382-2801
1-800-361-7722
FAX: (514) 385-5530

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28 Apex Rd. M6A 2V2
(416) 782-1122
1-800-387-8584
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1674 Church Ave R2X 2W9
(204) 942-4264
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CALGARY
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1-800-580-0737
FAX: (604) 682-4196

info@cansew.ca

www.cansew.ca

TSS # 2525/42

(5)